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APRIL 2015 | TOOLS, TECHNIQUES & CREATIVITY



The Mobile Photography, Apps, and Social Media Issue

TECH-SAVVY PHOTOGRAPHERS EFFECT SOCIAL CHANGE BY EMBRACING NEW MEDIA

WE TEST

- > FUJIFILM X100T
- > PANASONIC LUMIX DMC-LX100
- > EPSON PERFECTION V850 PRO SCANNER

PLUS

PULITZER PRIZE-WINNING
PHOTOJOURNALIST DISCOVERS
THE JOYS OF IPHONEOGRAPHY

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Summary of Recycle Tests from Video:

Flash Unit Models	Output Setting	Total WS	VLX™ Recycle	VML™ Recycle	ION Recycle
1 Einstein™ E640	Full Power	640 Ws	1.96 sec.	4.3 sec.	4.83 sec.
2 Einstein™ E640s	Full Power	1280 Ws	3.5 sec.	8.86 sec.	10.13 sec.
3 Einstein™ E640s	Full Power	1920 Ws	5.3 sec.	13.0 sec.	15.8 sec.
4 Einstein™ E640s	Full Power	2560 Ws	7.2 sec.	15.9 sec.	19.2 sec.
4 Einstein™ E640s	Half Power	1280 Ws	3.3 sec.		
1 AlienBees™ B1600	Full Power	640 Ws	2.0 sec.	4.13 sec.	4.4 sec.
2 AlienBees™ B1600s	Full Power	1280 Ws	5.27 sec.	14.1 sec.	14.4 sec.
2 AlienBees™ B800s	Full Power	1920 Ws			

Flash Unit Models	Output Setting	Total WS	POWERED BY VLX™		
			FPS	Time	# of Shots
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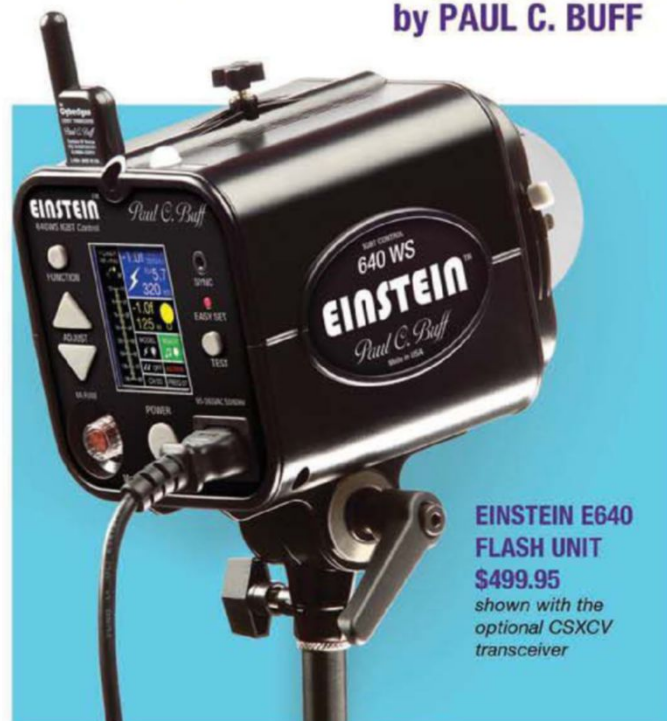
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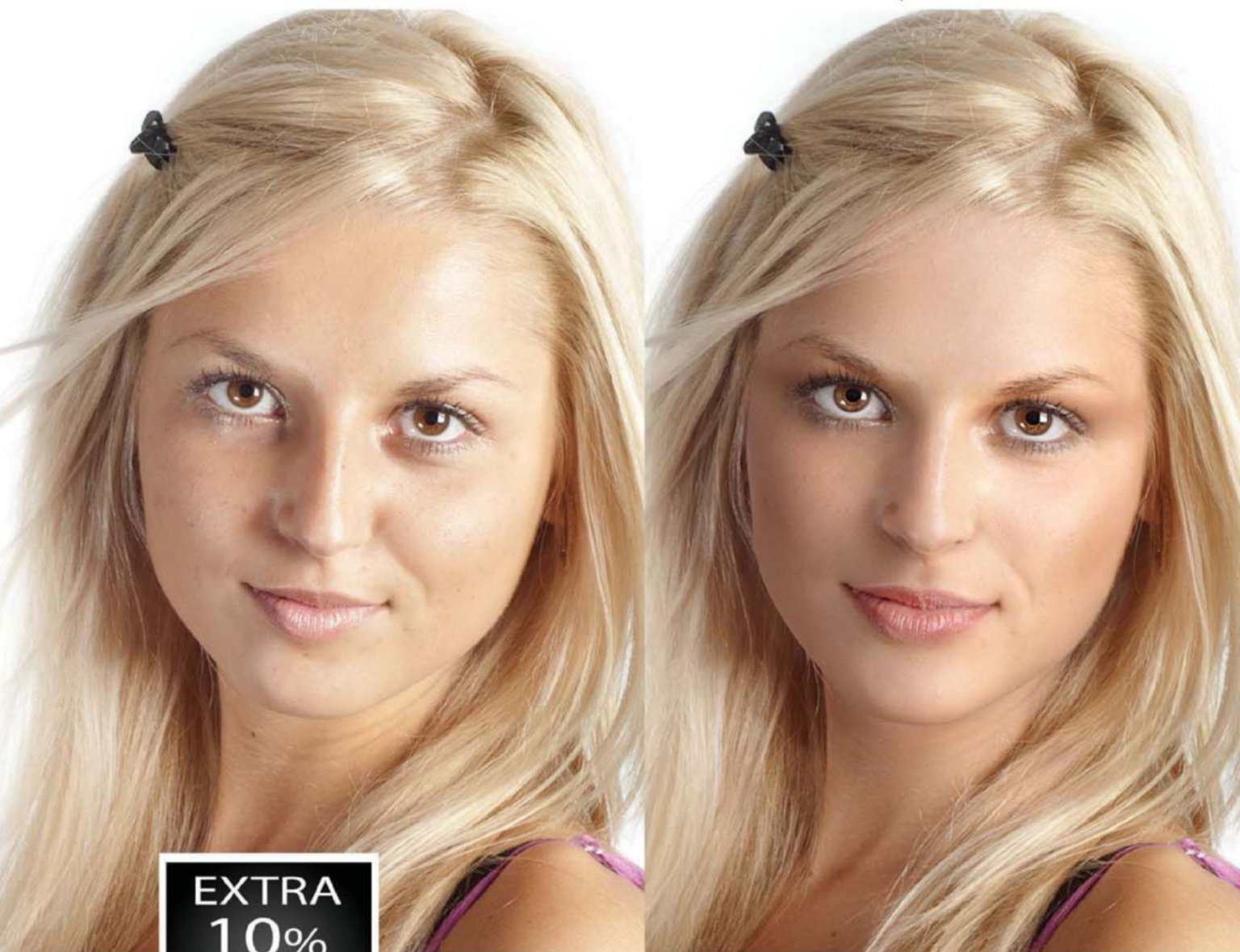
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ON THE COVER

Photographer Luke Copping works with the Friends of the City of Buffalo Animal Shelter to create portraits of rescue and foster dogs in their care to help aid in getting the dogs placed in good homes. And that's where he met Birch, the very happy 2-year-old pit bull gracing our cover. According to Copping, Birch, who came to the shelter as an unclaimed stray, has the "funniest pit smile" he's ever seen. Copping made this portrait with a Canon EOS 5D Mark III and an EF 70-200mm f/4L USM lens.



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Social Media Without Tears (or Hashtags)

MOST PEOPLE I know (including yours truly) have a love-hate relationship with social media. We love it because it helps us stay in touch with our family, friends, and colleagues who might live in other parts of the country (or other parts of the world); it helps us promote what we are doing (mostly in a good way); and it's one of the best places to catch all the important (and not-so-important) breaking news of the planet.

But then there's the downside to places like Facebook, Twitter, Instagram, Tumblr, etc., etc. It can be an incredibly addictive time-suck and oftentimes the stuff shared on social media is pure drivel: self-aggrandizing "humblebrags" from people you're not even sure you like; bad photos of food that people either just made or are about to stick in their gullets; and hashtags, #tons #and #tons #of #annoying #hashtags. There's also, of course, plenty of insipidly cute cat videos but I don't really have any problem with those. ☺

So yes, the case can be made that social media is a complete waste of time that has little to no inherent value. Just don't tell that to a few of the people we've interviewed in this issue who are using social media for the greater good. And that's no humblebrag!

Take, for instance, Jeremy Cowart who we interview on page 78. Cowart was named the "most socially influential photographer" in the world last year and while, on face value, it may be hard to tell exactly what that means, he's making the most of it through his social change efforts, activism, and community outreach, all of which has been spurred on with the help of his massive online audience. He also, somehow, finds time to run a very successful portrait photography business.

Then there's Luke Copping, who shot the adorable image of the pooch on our cover. Copping works with an animal shelter in Buffalo, New York, to create portraits of rescue and foster dogs so they have a better chance of getting adopted. "Social media has been the key because one of the universal truths of the Internet is that it's crazy about pictures of adorable dogs," he says in Maria Piscopo's *Business Trends* column on page 82. "Almost as soon as I or the shelter volunteers share one of these images it goes immediately viral in the local community, garnering hundreds of likes and dozens of shares and retweets."

That's real power. And speaking

of power, you should check out our debut column *Going Mobile* on page 24, which explores the art of mobile photography. In this initial installment, Barry Tanenbaum interviews Pulitzer Prize-winning photographer David Hume Kennerly who talks about why shooting with an iPhone has made him a better photographer. And speaking of debuts, we have two amazing new photo features premiering in this issue: on page 12, there's "Full Frame," which features one spectacular photo (and the story behind it) spread over two pages; and in the back of the magazine, on page 103, is "Final Shot" where we give the full-page treatment to a favorite image from a *Shutterbug* reader.

If you want to stay on top of all the photography news we're covering online, "like" our Facebook page (facebook.com/shutterbugmag), follow us on Twitter (twitter.com/ShutterbugMag), and on Instagram (instagram.com/shutterbugpix). On Instagram, we're now doing weekly photo contests, so hashtag your Instagram images with #ShutterbugPix to be immediately entered. On Shutterbug.com, we've started Shutterbug Photo of the Day where we feature a favorite reader photo on our website daily. Enter your best photos now and you could find yourself featured in *Shutterbug* magazine! ■

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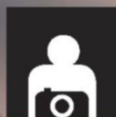




NEED A LIFT?

Photographer Jordan Matter captured this image of dancer Michaela DePrince in Becket, Massachusetts, as part of the Jacob's Pillow Dance Festival. "I saw the road as I was driving to meet Michaela, and I suddenly had the idea of her backpacking across the country," Matter says. "I loved the wind of the road and the color of the gravel as it contrasted the green of the trees. The dog, however, was pure serendipity. A car passed us as we were setting up, and the dog stuck his head out the window. I chased the car down to borrow the dog." Matter shot 105 frames, with one jump per frame, but it wasn't until the final frame that he got the shot he wanted. This image became Matter's most "liked" photo on Facebook though some commenters seemed to think it was Photoshopped. It wasn't. He shot it in natural light with a Nikon D800 and a Nikkor 70-200mm f/2.8 VR lens. Settings were ISO 1000, 165mm, 1/500 sec at f/3.5. See more of Matter's work and a behind-the-scenes video of this shoot at www.DancersAmongUs.com.

© Jordan Matter



CREATIVITY

PICTURE THIS!



Winter Wonder

© Mary Ann Wamboldt

FOR THIS MONTH'S assignment, we asked you to think outside the box about winter photography. While photos of snowmen and sledding are nice, we were looking for images that captured the true splendor of the season's power and beauty. We wanted to see photos of winter with a sense of wonder and you delivered. Here are our nine favorite images of winter from *Shutterbug* readers.

SNOW HORSE

▲ Mary Ann Wamboldt shot this poignant photo after a severe ice storm hit her area the day before Christmas Eve. "The storm left behind unspeakable beauty, crystallizing everything in a thick layer of ice," Wamboldt says. "I took this photo at sunset at a farm located behind my home."



A WARM PLACE

◀ "I took this photo after a very rare, for the Dallas area, 14-inch snow," Lynn Cromer says. "I took five bracketed shots and processed them in Photomatrix and Photoshop using Exposure Fusion not tone mapped. The camera was a Nikon D300 with a Tokina 12-24mm f/4 lens at 12mm, ISO 400."

CHRISTMAS WEEK

► Rob Wiener shot this striking winter image with a Pentax K200D and a Tamron 10-24mm lens at ISO 100, 1/4 sec at f/16.

© Lynn Cromer



FROM THE TOP

© Marco Rocca

▲ Marco Rocca captured this spectacular shot in the Dolomites in Italy. He shot it with a Nikon Df and a Nikkor 28-200mm f/3.5-5.6G lens at 80mm, f/11, 1/500 sec, at ISO 200. He later converted it to black and white with Silver Efex Pro.



© Rob Wiener



THE SNOW TREE

▼ "Last November I wanted to play a bit in the snow," Yvonne Baur says about this artistically geometrical snow shot. "Bryce Canyon National Park was a winter wonderland with at least two feet of fresh fallen snow. Almost all viewpoints and the park road were closed but I was able to snowshoe the Queens Garden Trail. It was fantastic! I took only a few shots because I couldn't see anything. But the shots of all the tiny little details and all the snow-packed trees were worth heading to the park."



© Yvonne Baur



© Earl Raglin

BLIZZARD

▲ These starkly beautiful horses were photographed during a winter storm by Earl Raglin with a Sony A77 at 360mm, f/20, using spot metering and Shutter Priority mode at 1/200 sec.

WINTER WONDERLAND

▼ This image by Sean P. Carson is "a view of the Wemindji River in the James Bay Region of Northern Quebec after the first winter storm on October 31, 2014." Shot in one frame with a Nikon Df and an AF Nikkor 50mm f/1.8D lens, Carson also used various stacked circular polarizer and neutral density filters. He handled the post-processing in Phase One's Capture One Pro.



© Sean P. Carson, B.F.A./exposurestudio.ca

Perspectives of power



Focal length: 15mm Exposure: F/11 0.6 sec ISO400 © Ian Plant

new

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THE GOLDEN COLD

▲ David Blanchard photographed this beautiful image near the famous Sand Harbor area on the east side of Lake Tahoe, Nevada, as the sun quickly started to set. He shot it with a Canon EOS Digital Rebel XT*i* and a Canon 24-105mm L-series lens at ISO 100.

HALF DOME

► "One of the best known and most photographed icons of our National Park system, Half Dome was in rare form on this very cold afternoon in December," Douglas Croft says about this iconic image. "The snow and frost from the previous night's storm was still hanging in the trees and clouds were gathering around Half Dome's summit as we watched from the valley floor." He shot it with a Nikon D7000 and a Nikkor 18-300mm f/3.5-5.6 lens at ISO 200, 1/200 sec at f/5.6.



© Douglas Croft

HOW TO SUBMIT ONLINE

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OUR NEXT TOPIC: Great Lighting **DEADLINE:** June 1, 2015

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OUR NEXT ASSIGNMENT

Gorgeous Landscapes

Our next assignment is deceptively simple: show us your best landscape photos. Yes, many of our readers have posted some amazing landscapes in our image galleries on Shutterbug.com over the years but the challenge is to show us something that is both beautiful and original. Go! ■

ARIZONA HILLS

I shot this image while we were taking a break during a long drive to the Grand Canyon. We parked the car at a rest stop, got out, and this is what we saw from the parking in front of us: pure gorgeousness as far as the eye could see. I captured it with a Canon EOS-1Ds Mark III and an EF 16-35mm f/2.8L II USM lens at f/9, 1/320 sec at ISO 200, and then converted it into black and white using Silver Efex Pro.



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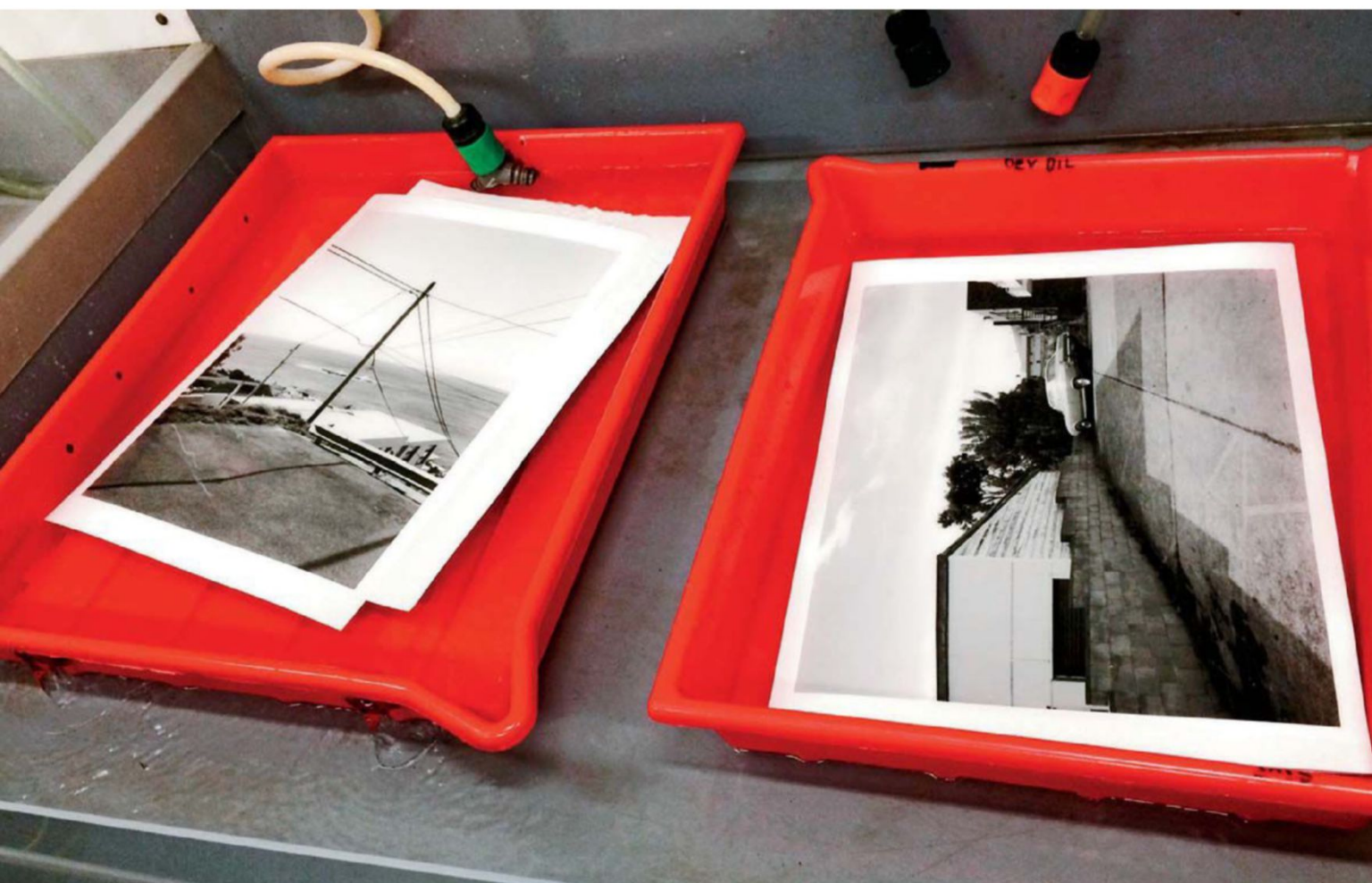
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TECH TALK: Geoffrey Roberts shot this image with an iPhone 5S and the phone's 4.1mm lens, at 1/35 sec, f/2.2, ISO 80, in program exposure, pattern metering.



© Geoffrey Roberts

Magic Act

BY BARRY TANENBAUM

GEOFFREY ROBERTS'S DARKROOM TRICKS CAPTIVATE HIS SOCIAL MEDIA FOLLOWERS

AS HE NEARED the end of the process of making prints for an exhibition of his large- and medium-format photography, Geoffrey Roberts was ready to spread the word about the upcoming event. "I was in the darkroom once or twice a week for eight or nine months leading up to the show," he says, "and to promote it I took pictures in the darkroom and posted them to Flickr, Facebook, Instagram—basically everywhere."

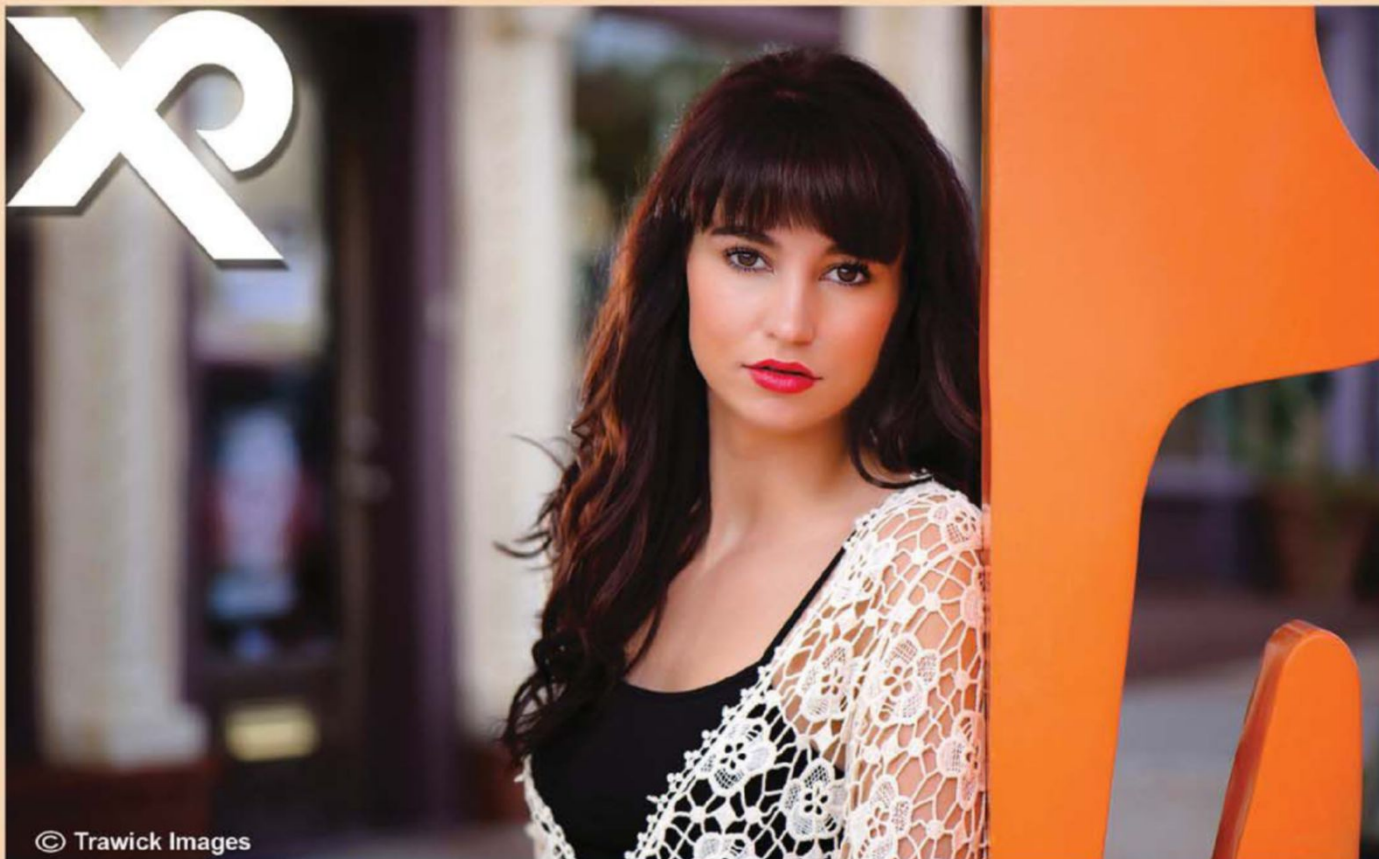
He found that viewers of the photos were "rather excited about seeing prints in trays. I realized the darkroom

was a mysterious place, something out of the past. I got the feeling people thought I was some kind of magician."

Roberts's exhibition images were taken with Arca-Swiss cameras, but for darkroom photos he reached for his iPhone 5S. "Straightaway, I could upload the pictures to social media," he says. He often uses his phone when he's shooting with black-and-white film and wants to take a color photo. "Also, my photography is quite formal, and if I want a picture that's less than serious, I have the iPhone. I'm not bothered by how someone makes a picture; what interests me is whether it's a good picture."

Roberts, who lives in Sydney, Australia, is a dedicated photo enthusiast who takes pictures for the love of it. He agreed that this image, which we saw on Flickr, was a suitable symbol of recent developments in the history of photography. ■

*You can view images from Geoffrey Roberts's exhibition, *The Kind Warmth Awaits*, at his website, www.geoffreyaroberts.com. If you're in or near Marrickville, New South Wales, in Australia, and want to do some printing of your own, check out the darkroom facilities Roberts uses at www.thinknegative.com.au.*



© Trawick Images

Making The Images: See How at <http://www.xpphotogear.com/behind-the-scenes/>

"Shooting inside on location with mixed lighting can be difficult because of different color tones of light and with overhead direction of light. Using the **Speedbox Diffuser 60** set to camera right to illuminate the bride, I still needed a visual separation for Janice from the dark yellow hallway. Adding another flash with a **Microbox** angled up from the floor gave a glowing effect that transforms her from bride to princess. Dragging the shutter a bit and setting the white balance to a flash preset finished off this beautiful image."

Robert Trawick www.trawickimages.com



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Editor's Note: Going Mobile is a new Shutterbug column that will look at the art of mobile photography.



Photographs by David Hume Kennerly ©2014

A panoramic image of the christening of the aircraft carrier Gerald R. Ford at Newport News Shipbuilding, November, 2013. From 1974 to 1977, David Hume Kennerly was personal photographer to President Gerald R. Ford. "The panoramic function in the iPhone is really a good one," Kennerly says, noting it was the feature that made it possible for him to capture the impressive ceremony in one frame.

More Than Just Phoning It In

PULITZER PRIZE-WINNING PHOTOJOURNALIST DAVID HUME KENNERLY SAYS HIS IPHONE HAS MADE HIM A BETTER PHOTOGRAPHER

BY BARRY TANENBAUM

ON A SUNDAY morning not long ago I turned on the radio and by chance heard the legendary, Pulitzer Prize-winning photojournalist David Hume Kennerly say that his iPhone had made him a better photographer.

Not long after that, I got to ask him directly: "Really? How so?"

"For one thing, with the iPhone you've got only one point of view," Kennerly replied, "so you have to get closer—and getting closer is always good; or you have to get back. You're the zoom lens."

With the iPhone always at hand, he had to temper its easy accessibility with observation and evaluation, and that, too, played into his judgment that the phone made him a better photographer. "The most important thing is that I asked myself: Why am I taking this picture? What is it about this photo? And I began to pay more keen attention to my surroundings and what I was seeing. Not enough of us do that, no matter the camera."

ONLY THE ESSENTIALS

In the course of the self-assignment, Kennerly realized that the iPhone fit



Shadows and feet at Los Angeles International Airport. "I really like the 6x6 app," Kennerly says. "When I was growing up in the business I shot with a Rolleiflex and Hasselblad and always loved the square format."

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CREATIVITY

GOING MOBILE



A view of Neil Estern's sculpture of FDR at the Franklin Delano Roosevelt Memorial, Washington, DC. "I was entranced by the hands on this powerful statue...," Kennerly writes in his book, "and composed my image to feature his hands in the foreground and his chiseled face gazing into the sky."

his preference for carrying only the essential photo tools. "You automatically become a better photographer when you're not fooling around with a lot of stuff. I have a streamlined way of working, and on the job I carry only what I'll need. I don't look like a Christmas tree draped with Canon ornaments. I know that simplicity is the hallmark of a photographic career."

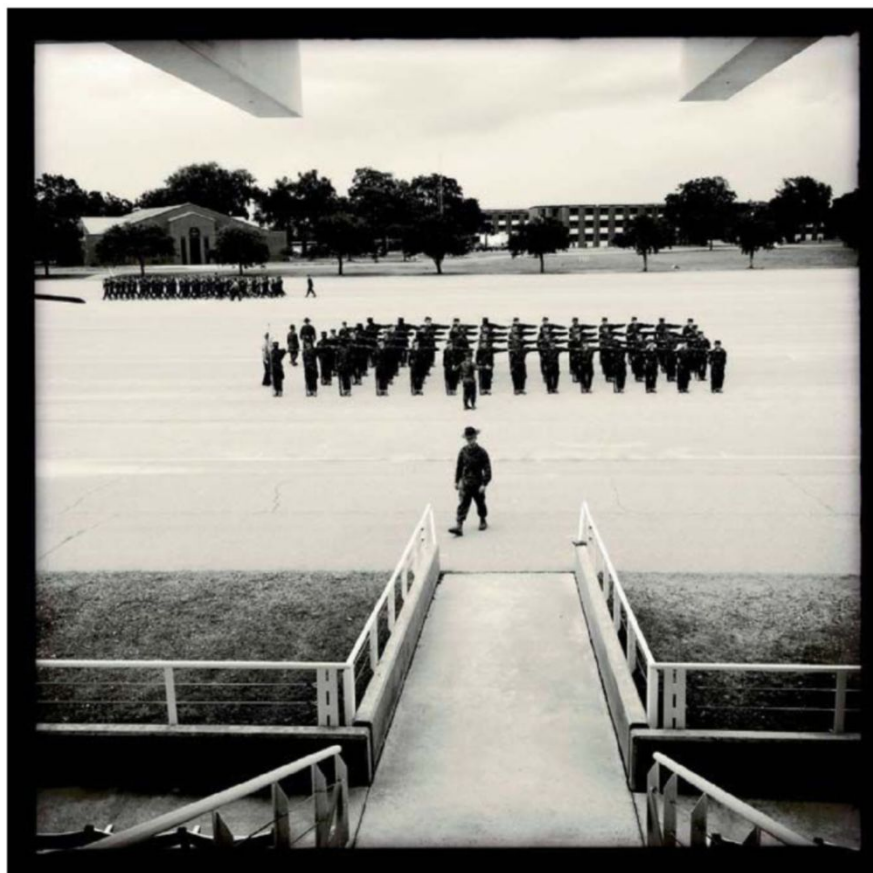
Kennerly had an iPhone the first week it came out, in 2007, and the first photos he took with it were, he says, "nothing special." He didn't really get into iPhone photography until some apps he liked made their appearance: "Hipstamatic, mainly. It offered a variety of different looks of lenses and film."

He took a lot of photographs with his iPhone, and quite liked the way the pictures looked. Then in 2013 he decided to challenge himself with an iPhone picture-a-day self-assignment. That project, he says, "ultimately morphed into a book [*David Hume Kennerly On the iPhone: Secrets and Tips from a Pulitzer Prize-winning Photographer*] that's more of a photographic philosophic journey about how and why I take pictures."

No matter what camera is in his hands, Kennerly is first, foremost, and always a photojournalist. "A point I make in the book is you've got to think about what you're doing when you're taking photos. What's the story you're trying to tell? A good picture is nice to look at every now and then, but a great picture tells a story you remember."



Jurong Bird Park, Singapore. The interaction of a child with a world of wonders is a natural subject for a winning photo...if you've got a camera handy. "With the smartphone, the novelty train has left the station," Kennerly says. "It's a part of daily life now."



Parris Island, South Carolina. "I was in the area on an assignment for Bank of America and dropped by Parris Island to try to get a photo. I succeeded!"

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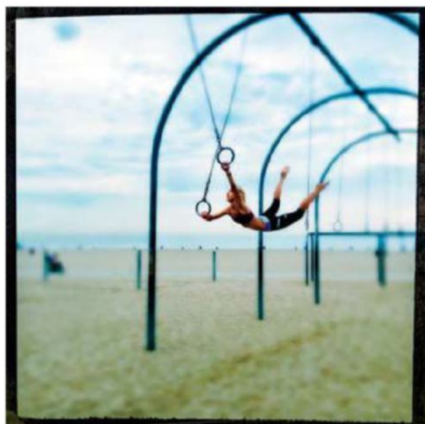
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CREATIVITY

GOING MOBILE

He allows that there aren't that many great pictures. "My examples would be Joe Rosenthal's Iwo Jima flag—all you have to do is say what it is and it's in your mind; and Eddie Adams's Saigon photo; and Nick Ut's picture of the little



Kara Sadlik on the rings, Santa Monica, California. Kennerly writes that "visual counterpoints, such as sharp angles intersecting with graceful curves, will provide images with interesting tension and contradiction."

girl running down the road after being napalmed.

"Most people will never take a great picture. I don't know if I've ever taken one—I don't think so, not on that level—but the main thing is consistently becoming better at telling a story, and that's one of my goals."

AN APP MINIMALIST

Kennerly's iPhone storytelling is aided by a few select apps—Hipstamatic, 6x6, and Pro HDR—but in keeping with his less-is-more attitude about photo equipment, he's pretty much an app minimalist.

"It's better to get to know a few apps," he says. "You can always experiment to find something else, but you're better off if you find something you really like and stick with it. The photos are about content, not the fact that they're vignetted or have weird colors or whatever. Apps won't make you a better photographer. They may make some of your boring pictures look more interesting, but that's not a substitute for getting a good picture content-wise or story-wise."

There have been a few times when the iPhone did a job the pro gear



Walt Disney Concert Hall, Los Angeles, California. Kennerly writes in the book that "[Frank] Gehry's masterpiece is always ready for its close-up." He found himself drawn to the concert hall "on days I had nothing specific to shoot during this project because I knew I could always make an intriguing photo there."

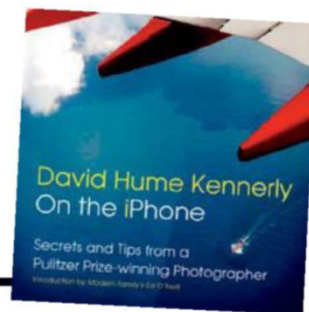
couldn't. "I was shooting in New York, in Times Square, for Bank of America, and there was a pop-up concert with Bruce Springsteen and Carrie Underwood. I was shooting that with my Canon, but they wanted something online right away, so I popped a few with the iPhone. There are times that are perfect for that—it's an online vehicle, and another arrow in the quiver."

One of the points Kennerly makes in the book is that everyone can become a better photographer. "The old saying is right: the more you practice, the luckier you get. But you have to add that a little more thought has to go into all that practice."

It's Kennerly's thoughts about photography that turn the book into much more than a collection of iPhone images. "The book is really about photography, and how to make it better for yourself. And as far as the pictures, people ask me all the time, 'Wouldn't those pictures have been better with the Canon?' And my answer is, 'No, because I wouldn't have had the Canon with me.' That's the bottom line." ■

You can view a variety of classic and contemporary David Hume Kennerly images and access his blog at his website: kennerly.com.

David Hume Kennerly's book began with his iPhone photo-a-day project, but his critical eye, insightful commentary, and sharply observed tips for better pictures take it beyond coffee-table picture book territory.



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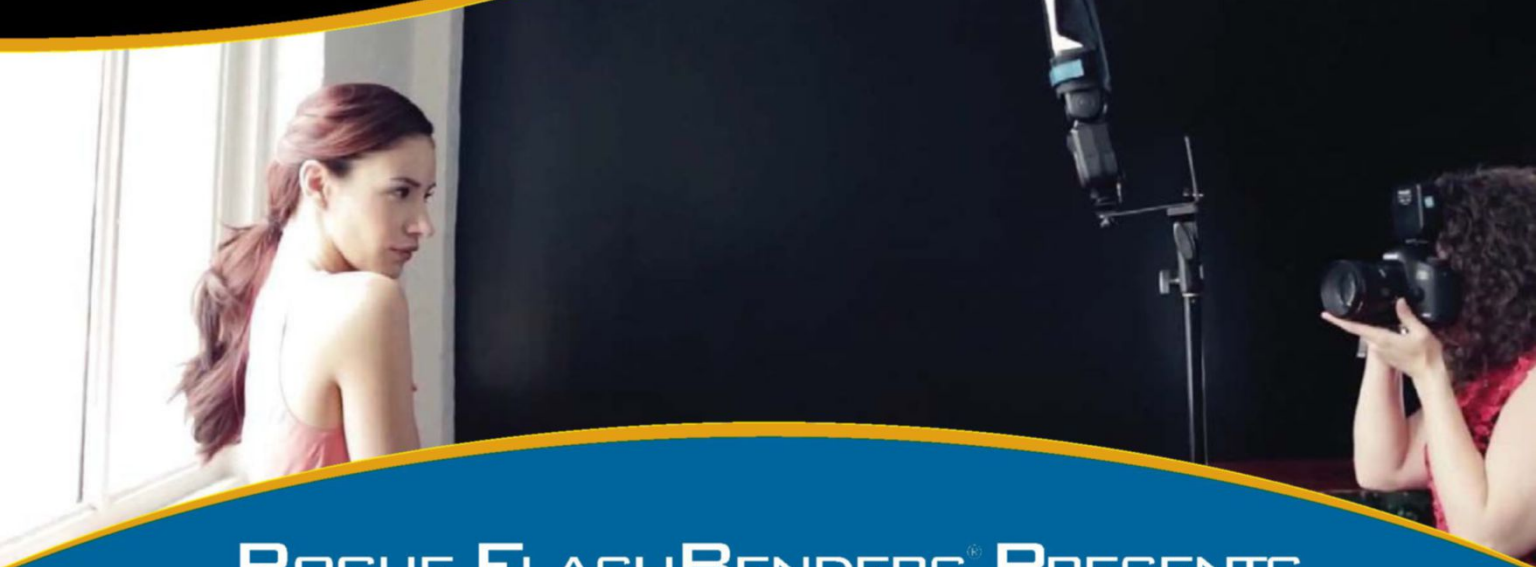
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Smart Shooting

MY FAVORITE SMARTPHONES AND APPS FOR MOBILE PHOTOGRAPHY

BY JOE FARACE

MOBILE IS AN adjective often used to describe photography made with smartphones but I can put a tiny Panasonic Lumix GM1 in my pocket and take a walk—mobilize, if you will—as easily as my iPhone and shoot some nice photos. Instead, let's call it what it really is: Smartphone

Photography.

That's not to denigrate the quality of the images that a smartphone can produce. Ralph Nelson's book *Botanica* (www.ralphnelson.com) features stunning close-up photographs of flowers and plants and all of the images were made with his iPhone! With their small sensors and often extreme wide-angle lenses, there is no doubt smartphones are changing the face of photography. In fact, a smartphone is the perfect answer to a question I'm often asked: What's the best camera? The answer is and always was, "the one you have with you."



A phablet is a device that combines smartphone and tablet functionalities and with its 5.7-inch screen and 16MP (rear-facing) camera, Samsung's Galaxy Note 4 is more phablet than phone. The front-facing camera is 3.7 megapixels but when coupled with an f/1.9 lens and optical image stabilization you can make selfies in available darkness. And for those of you who miss their Apple Newton (I do) it has a stylus.

The chunky (20mm thick) but 20.7MP Samsung Galaxy K zoom is slightly smaller (4.8 inches), looks more camera than phone but has an actual 10x optical zoom along with optical image stabilization.



MY FAVORITE SMARTPHONE CAMERAS

To make images for his 11x13-inch coffee-table book, Ralph Nelson used a 2MP iPhone 3G and an 8MP 4S. The current iPhone 6 and 6 Plus—which is bigger than an Olympus E-M1—have a similar but improved 8MP camera. To accomplish big megapixel counts, some smartphones, such as the 41MP Nokia (now Microsoft) Lumia 1020, have a

sensor that's physically larger (2/3-inch) than competing phones. While smartphones aren't always known for their lenses, the Lumia 1020 has Zeiss optics. To produce its high pixel count, the 1020 uses oversampling software that you may recognize as similar to how some digital cameras' digital zoom feature uses interpolation to crop part of a sensor to create the illusion of longer focal lengths.



Straddling the 4-inch iPhone 5S and the 7.9-inch iPad mini but 0.2 inches smaller than a Galaxy Note 4, the iPhone 6 Plus is a phablet and while it won't fit into my old 50-pounds heavier jeans, it might fit in a pair of Shaq's pants. With its f/2.2 lens, optical stabilization—the iPhone 6 has only digital image stabilization—and face detection, the 6 Plus makes a damn fine camera. At 7.1mm thick, it's the supermodel of smartphones, especially when compared to the Galaxy K zoom. And like all smartphones these days, it lets you shoot HD video clips.

The buzz around the hipster water cooler is that the 5.2-inch HTC Desire Eye is the best smartphone for shooting selfies. For some people, images made with the front-facing camera are as important as those with the back shooter, which is why the Desire Eye has 13MP cameras on the front and back. There are even dual LED flashes to provide whatever light these tiny flashes produce. If you care about audio quality for your video clips, there are front-facing stereo speakers and three mics.



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TOOLS

GEARED UP

Not to be confused with Apple's 3G, LG makes the 13MP G3 smartphone that features optical image stabilization, which seems like a de facto cell phone feature these days. The 5.5-inch phone (I guess it's a phablet) has dual LED flashes and its autofocus uses an infrared laser to measure distances between the phone and your intended subject. The front-facing camera is just two megapixels, which LG must assume is sufficient for selfies.



Lest you think that photo technology migrates from cameras to smartphones, that trend now appears to be going in reverse. By the time you read this, Sony is expected to announce its APCS (Active Pixel Color Sampling) sensor. Unlike Bayer sensors that combine four R-G-B-G pixels to get one pixel of color information, every pixel on Sony's sensor gets full color information. By comparison, Foveon sensors use three layers of pixels instead of a single-layer array. The new imaging sensor is expected to be used first on an Xperia smartphone and later on Sony cameras.





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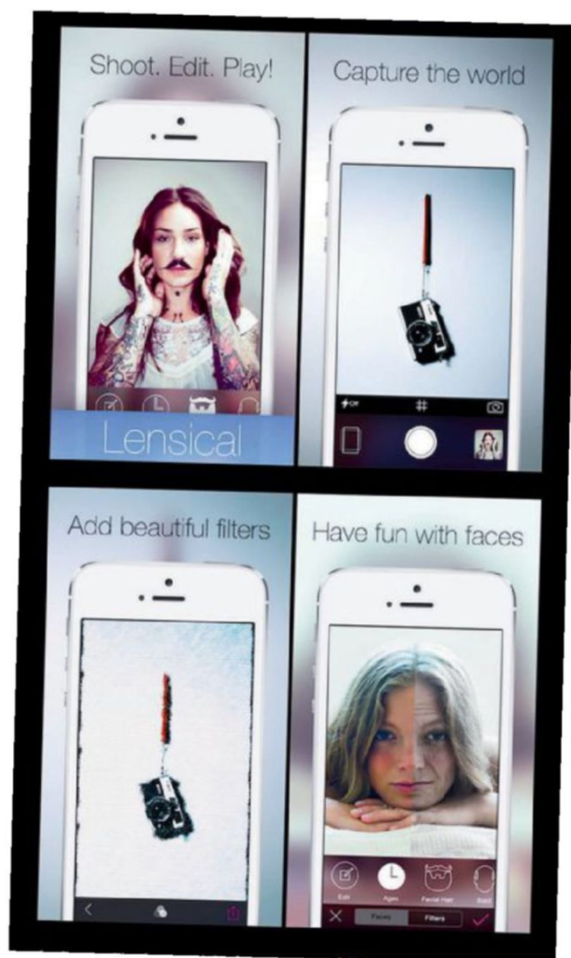
TOOLS

GEARED UP

MY FAVORITE PHOTO APPS

In these pages I've always insisted photography should be fun and that includes smartphone photography. Lensical (<http://appt.ly/ourapps>) is a free camera, photo library, and image editor app for iOS that lets you add everything from subtle photo presets and watercolor filters to face aging effects and follicle accurate mustachios. You can shoot and share photos in any aspect ratio and browse and organize your photo streams and albums without managing a light box or duplicating images. As is typical with many free apps, there are in-app modules you can purchase with costs ranging from 99 cents to less than two bucks.

At \$3.99, ProCamera 8 by Cocologics (<http://cocologics.com>) for the iPhone and iPad may be the most extensive photo app I've found. It has separate focus and exposure points—I want that in my next camera—plus white balance lock in both photo and video modes. Shutter speeds can be set to 1/8, 1/4, 1/2, or one second. You can swipe between filters, use image adjustment tools, and crop photos. ProCamera offers TIFF capture, rapid fire mode, anti-shake technology for photos and videos, a 3D tiltmeter, self-timer, live histogram, 6x digital zoom, EXIF/video metadata viewer, and manual save functions. You can share finished images on Facebook, Twitter, EyeEm, and Instagram (with a SquarePrepare function and support for high-res export) or batch upload to Dropbox and Vimeo.



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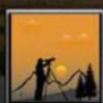
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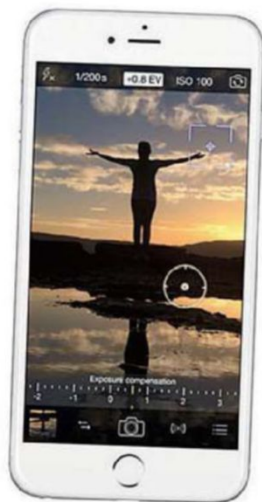
Photo courtesy of Lopshire Photography



TOOLS

GEARED UP

If you're going to shoot long exposures with your iPhone, consider Kenu's Stance tripod for the iPhone 5, 5S, 6, and 6 Plus that plugs into the phone's Lightning port. (So, it's not an app at all. It's a mobile photography accessory.) Kenu likes to say that Stance is the size of a Wrigley's pack of gum—I'm a Beeman's man myself—measuring 3.1 inches and weighing 1.07 ounces. Stance has zinc-



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To the left, is an image showing the Graslon Prodigy without its diffusion lens. Take a look at the patent-pending IBT mirror system inside; the goal is to first enlarge the light from the flash before sending it through the diffusion lens, making it incredibly soft.

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* Diffusion lens removed for display purposes. Not intended for use without diffusion lens.

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Graslon Prodigy Diffuser



alloy construction and nonslip feet along with a ball-and-pivot head allowing it to tilt and rotate. The legs fold flat and can be placed in landscape or portrait mode to watch videos. It costs \$29.95 and doubles as a bottle opener for opening those PBRs.

Visual Supply Company's VSCO Cam (<http://vSCO.co>) is a free app for Android, iPhone, and iPad and lets you shoot, edit, and share photographs. Capture tools allow for fine-tuning photographs, including exposure, color temperature, contrast, crop, straighten, fade, and vignette. Other controls include manual focus, shutter speed, exposure compensation, and ISO. My favorite feature in Edit View is the ability to compare the original image with the edited version by holding down the image. The Grid lets you find and follow other photographers around the world and post your photos. There are a number of preset packs available for purchase through an in-app store.



Tilt-Shift, aka perspective control, lenses have been all the rage for a while but the only problem is that these lenses can be expensive. You can add similar effects to smartphone photographs with TiltShiftGen2 for iOS. The app costs 99 cents and is available via Apple's iTunes. It lets you take photos in various styles such as ToyCamera plus add



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Ball Heads



Clamps



Gimbal Heads



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Video Sliders/Rigs



Flash Brackets



TOOLS

GEARED UP

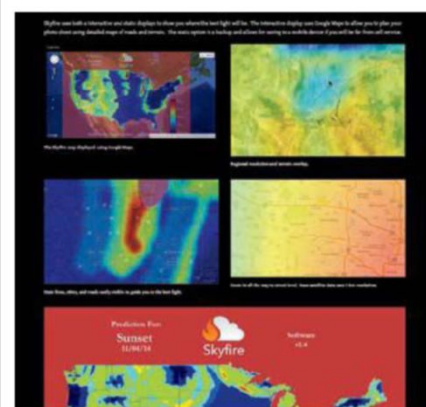
miniature and vintage effects. TiltShiftGen2 includes lens blur (round, elliptical, linear) and color correction features and has nine new filters along with a live preview. And of course, no photo app would be complete without the ability to post images to Twitter, Facebook, Flickr, Instagram, or Webio.



My favorite apps are those that assist your photography, no matter how you capture images. Pocket Light Meter (www.pocketlightmeter.com) is an iPhone app that lets you use your phone as a light meter doing exactly what you think it should, including making reciprocity calculations. As I write this, the current version offers improved low-light performance, has a redesigned settings view, and permits switching aperture, ISO, and shutter speeds on the fly. Because it's advertiser supported it's free but you can remove ads for £0.69 (\$1.08) or by "buying the developer a pint of his favorite ale" for £2.99 or about \$4.67 at current exchange rates.



Skyfire (www.skyfireapp.com) is currently a web-based application that is designed to help you find perfect light—the Golden Hour if you will. Skyfire produces maps along with predictive sunrise and sunset analysis but it's not just a reorganization of hourly weather forecasts. It uses a complex algorithm based on satellite images and national weather observations to isolate all the elements that together produce a great sunset. A smartphone app is promised real soon now so check the site as it might be available by the time you read this. ■



Since this issue's theme embraces mobile photography, apps, and social media, I invite readers to follow me on Twitter at @joeFarace, add me to your Google+ circles, follow me on Pinterest (www.pinterest.com/josephfarace), or read "Mirrorless Musings" on Tumblr (mirrorlessmusings.tumblr.com). Coming soon to Ello.

Product shots courtesy of the respective companies.

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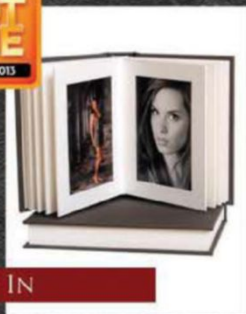
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Fujifilm X100T Review

[LAB TEST RESULTS & COMMENTS: STILL & VIDEO]



The Fujifilm X100T is a compact camera with an APS-C-sized sensor (16MP), a fixed focal length lens (23mm, 35mm equivalent), and a hybrid viewfinder system, which combines optical and electronic viewfinders. Two lens rings, setup dials, user-defined function buttons, and a Wi-Fi module guarantee comfortable handling of the camera.



The large dial on the top allows the user to change shutter speed settings. Intermediate settings (like 1/160 sec) are available via the parameter dial on the back.



The small setup dial in the upper right of the camera's back is where you change image parameters and for menu navigation. Pressing the "Q" button starts a quick menu, which allows the photographer to change parameters like ISO speed settings very quickly and efficiently.

THE FUJIFILM X100T is the newest camera of the X-model series. It uses an APS-C-sized sensor with 16 megapixels and has a 23mm integrated lens, equivalent to nearly 35mm in 35mm film format. The lens is fast at f/2.0 and offers very sharp, crisp images.

CAMERA BUILD & LAYOUT

The camera has a retro-style body that looks like a classic viewfinder system. This viewfinder is quite unusual: a "hybrid" that combines an optical viewfinder with electronic overlays and an additional electronic viewfinder. The electronic overlay shows image parameters and displays the scene with parallax compensation, which is very helpful when making close-up shots.

By pressing a lever on the front, the camera switches to its electronic viewfinder, which offers 2.36 million RGB dots and shows a very crisp and brilliant image. All told, the hybrid viewfinder system allows for very versatile handling of the camera. It offers focus peaking and a focus magnifier function, which makes manual focusing very comfortable. The LCD screen on the back is fixed,

which to us is a shortcoming. It offers 1,040,000 RGB dots and shows a very clear and brilliant image as well.

To change aperture or shutter speed manually there's a large lens ring with aperture marks and a dial on the top to set up shutter speed. The changes take place in 1 EV increments, although to make incremental changes between EVs the user can work with a setup dial on the back. This little wheel works with a dial motion and a Set/OK button to change image parameters or menu settings. In addition, the camera has an EV compensation dial on the top, which allows the user to change automatic exposure settings by +/- 3 EVs.

The X100T offers numerous individual settings in the menu. For example, the photographer can change the behavior of the focus ring (clockwise/counterclockwise rotation for macro to infinity setting) and define commands for seven of its function buttons, even though only the function button on the top is marked as a user-defined "Fn" button.

The camera has a Wi-Fi module, but an NFC system is missing. The Wi-Fi module allows for transfer of images to a PC or smartphone. The smartphone



The Fujifilm X100T offers a USB interface for data transfer and an HDMI port to present images and videos on a TV screen. In addition, it has a 2.5mm jack that can be used as a microphone port or for an optional remote control.



A small switch on the back allows the user to change focus mode very quickly. The camera offers single AF mode, continuous AF mode, and a manual focus setting.

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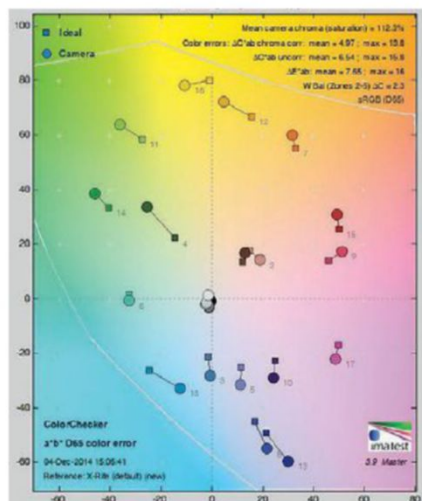
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The color results of the Fujifilm X100T are very good. The saturation is a little high (112.3 percent) and the blue nuances are boosted and quite oversaturated. Skin tone reproduction is excellent.

can also be used as a remote control. Fujifilm offers free software apps for Android and iOS systems. By using a smartphone and its GPS system, the X100T offers geotagging for images as well.

COMMENTS ON IMAGE QUALITY

Color: The color results of the Fujifilm X100T are very good. The saturation is a little high (112.3 percent) and the blue nuances are boosted and quite oversaturated. Skin tone reproduction is excellent, with only quite bright skin tones showing a bit higher magenta rate. The automatic white balance system causes a somewhat cooler look in darker gray nuances and a slight shift into the yellow and green direction in brighter nuances. Exposure settings of the portrait and the test box shot were made in automatic mode, ISO 200, and are nearly perfect.

Sharpness: Sharpness of the X100T images is excellent. The camera reproduced the ISO 12.233 chart with 3,194 of 3,264 lines per picture height. The high-quality lens shows nearly no chromatic aberration effects and the contrast lines in the test box image and the ISO 12.233 chart are reproduced without colored halo lines. The high sharpness is reached without an exaggerated sharpness filtering. The over- and undershot effects are low. Both test images show detail-rich clear and crisp structures. The



The camera showed an excellent reproduction of skin tones, which look very natural. The differentiation of red nuances (T-shirt) is good. Detail reproduction of fine structures is very good. You get even better results with the Raw image file format.

differentiation, even in “difficult” colors like in the red spool, is good.

Noise: The X100T showed an excellent performance in our noise tests. The luminance noise level is very low. Up to ISO 3200 it stays below 0.5 percent (!) and even at the ISO 6400 setting it doesn’t cross the 1.0 line. The color noise level is very low. Only in images taken at ISO 3200 and ISO 6400 did we notice noise artifacts.

The dynamic range results are excellent. The camera achieved a maximum of 11.9 f/stops and keeps a high dynamic range level in images taken with ISO 200 to ISO 3200 (more than 10 f/stops); only at ISO 6400 does the dynamic range fall off.

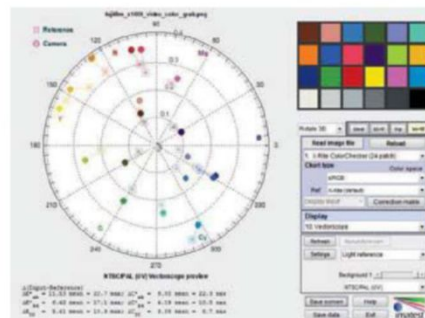
COMMENTS ON VIDEO FUNCTIONS

The Fujifilm X100T offers video recording in Full HD mode with 1920x1080 pixels. It offers high frame rates up to 60 frames per second, and even allows PAL-compatible modes with 25 frames per second (most Fujifilm predecessors in the X series offered only NTSC-compatible modes with up to 30 frames per second).

The movies are saved as Apple QuickTime MOV files with H.264 compression. The camera doesn’t offer any other file or compression format.



The white balance system of the X100T created a natural-looking image with only a slight shift of the gray background into the yellow and green area of the color space. Details look very sharp, and we did not notice any chromatic aberration effects.



The camera created video images with natural-looking colors. The saturation level is a bit increased, but most colors are reproduced quite well.

Video recording starts by pressing the “Fn” button on the top. This is the default setting, but, as noted in the still image portion of this test, the user can change the function settings of seven different buttons on the X100T, so the video recording function could be shifted to the “DRIVE” button on the back, for example.

The electronic viewfinder and the LCD screen on the back allow for comfortable handling and focusing. The camera offers focus peaking and a magnifier function to set up focus very easily. It allows all exposure modes for video recording. In addition, it allows manual ISO speed settings, but only in “M” mode. Sound level can be controlled manually.

To enhance sound quality, Fujifilm offers an external microphone, which can be connected to the 2.5mm jack on the right-hand side of the camera and mounted on the accessory shoe of the camera.

COMMENTS ON VIDEO QUALITY

As we’ve noted in past video tests with various Fujifilm X-series cameras,

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IMAGE TECH

sharpness in videos is disappointing. The new X100T reproduced the test chart with only 429 lines per picture height (nominal resolution of the video is 1,080 lines per picture height). The camera created extremely high aliasing and moiré effects, even though sharpness is very low. Our test video images, for example, show extreme “jaggies” on diagonal contrast lines.

The color reproduction, however, is very good. The camera created video images with natural-looking colors. The saturation level is a bit increased, but most colors are reproduced quite well.

The dynamic range results are disappointing. While the camera showed very high results in photo mode, the results in video mode are extremely low (5 to 6 f/stops).

The Fujifilm X100T has a list price of \$1,299. For more information, visit www.fujifilmusa.com. ■

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Panasonic Lumix DMC-LX100 Review

[LAB TEST RESULTS & COMMENTS: STILL & VIDEO]



The Panasonic LX100 has two dials on the top. The large dial allows the user to set shutter speed manually while aperture size is controlled by a lens ring. The smaller dial is used for EV compensation. An additional switch on the lens allows the user to change the aspect ratio of the image.



The LCD screen on the back is fixed and offers a resolution of 921,000 RGB dots. The camera offers a four-way control field and an additional setup wheel for menu navigation. User-defined Fn buttons help to configure the camera to taste and use.



The built-in zoom lens offers a focal length of 24 to 75 millimeters (35mm film equivalent). Just like SLR or CSC cameras, the LX100 offers a small switch to toggle between focus modes very quickly and efficiently. The interfaces of the camera are located on the right-hand side of the body.



The Panasonic LX100 uses SD cards as storage media. It works well with modern media such as SDHC or SDXC. Fast cards are necessary for high-speed burst modes (up to 40 frames per second) and for recording videos in 4K mode.



The Panasonic LX100 is an integrated lens camera with an MFT sensor and a 3.1x zoom lens. The retro-style camera has numerous function buttons and setup dials/lens rings that help the user change image parameters quickly and easily. The electronic viewfinder has extremely high resolution at nearly 2.8 million RGB dots.

PANASONIC'S LX100 IS the top-of-the-line camera in the company's compact LX series. Compared to other LX models, it is the first camera with an MFT (Micro Four Thirds) sensor. However, the camera doesn't use the whole image sensor area of 17.3x13mm, so its crop factor is 2.2x instead of the 2.0x of standard MFT cameras.

The camera has an integrated (non-interchangeable) lens with a 24-75mm focal length (35mm equivalent). This is a high-speed f/1.7-2.8 lens developed and certified by Leica. It allows users to create images under quite dim available light situations where a standard compact camera would fail. The wide aperture also allows for creative use of shallow depth of field.

CAMERA BUILD & LAYOUT

The LX100 has an electronic viewfinder (EVF) with extremely high resolution (2.76 million RGB dots) and an "eye

sensor" that switches automatically between EVF and monitor, plus manual switchover when desired.

The camera has "retro"-style handling for manual exposure control, with a lens ring to set up aperture size and a setup dial on the top to change shutter speed. If both rings/dials are set to "A" the camera will work in automatic mode. If only one of these settings is changed, the camera works in aperture or shutter speed priority mode. Partial stops and "intermediate" shutter speed settings can be chosen with the electronic setup dials of the camera. An additional dial on the top is used for EV compensation, which can be set up for +/- 3.0 EV in 1/3 EV steps.

The large body and the larger grip on the right-hand side (at least when compared to the forerunner LX7) make working with the LX100 a very comfortable experience. The camera offers numerous controls and effects in its menu and three function buttons

*How would
you light
this?*

*Kevin Ames
shares how he
got the lighting
results he wanted,
at dynalite.com.*



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on the top. In standard settings, the function button near the eyepiece controls the eye-finder mode (LCD or EVF); the second starts the Wi-Fi function; and the third is used as a “back” button in the menu and to delete images in review mode. A Q.MENU button allows users to get direct access to the most important image settings.

For menu navigation the camera offers a four-way control field that is encircled by a setup wheel. In addition, the user can also change the image aspect ratio (4:3, 3:2, 16:9, and 1:1) with a special switch on the top of the lens.

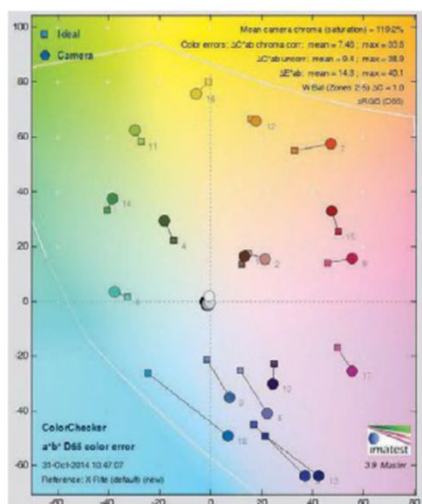
COMMENTS ON IMAGE QUALITY

Color: The camera showed an overall good color reproduction performance, but surprisingly high saturation in dark blue nuances. We note that many cameras we test display higher magenta rates and therefore very deep saturation, but the Panasonic LX100 results are quite high. This is visible in the standard test box image, where the blue spool in the upper right shows much higher saturation than all the other colors. All other colors are reproduced with lower errors. Brighter skin tones have a higher magenta rate than usual, but the overall reproduction of skin tones is very good.

Sharpness: The Panasonic LX100 showed a very good performance in our resolution/sharpness tests. The test chart was reproduced with 2,786 of 3,088 lines per picture height. The test images were shot in the 4:3 aspect ratio, which offers the maximum resolution. The high sharpness result is based on the MFT sensor, the high-quality lens, and the image processing. The camera showed some overshoot and undershot effects that emphasize contrast lines and create a little oversharpening in the images.

Noise: Noise results are on the same level as other MFT cameras. The luminance noise level is low in images taken at ISO 200 to ISO 6400 (below 1.0 percent), but above ISO 6400 it increases. Color noise becomes visible in images taken at ISO 800 and ISO 1600. The anti-color noise filtering effects become visible in images taken at ISO 3200 and higher. At ISO 12,800 and ISO 25,600 they become quite annoying and significantly reduce image detail.

The camera showed average



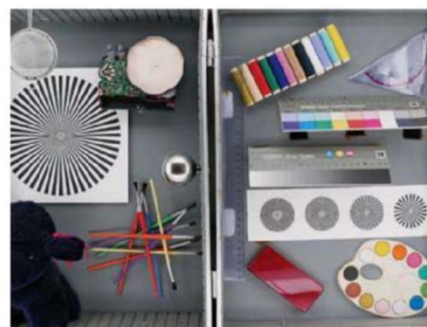
The camera showed a good color reproduction performance, but a surprisingly high saturation in dark blue nuances. We note that many cameras we test display higher magenta rates and therefore very high and deep saturation, but the Panasonic LX100 results are extreme.

results in our dynamic range tests. It reproduced the Stouffer 4110 chart with a maximum of 10.5 f/stops. The camera delivers more than 10 f/stops in nearly all ISO settings up to ISO 1600 and only shows a real decrease at the highest ISO settings. Using manual image style settings to “flatten” the contrast curve, we were able to attain even higher results (up to 11.1 f/stops during our tests), but for this evaluation we used the standard settings of the camera.

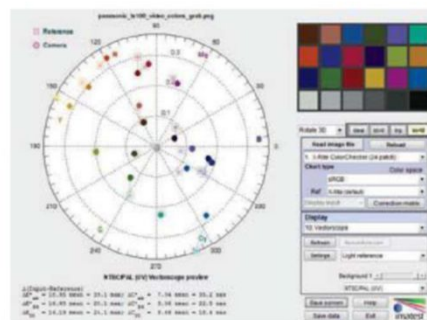
COMMENTS ON VIDEO FUNCTIONS

The Panasonic LX100 offers a wide variety of video recording capabilities. In Full HD mode, it is able to record videos with high frame rates: 50 (PAL setting) or 60 (NTSC setting) frames per second in progressive mode. In Full HD mode it uses a standard AVCHD 2.0 file and compression format, but the camera also offers MP4 mode. In MP4 mode it is able to record 4K movies with 3840x2160 pixels at 24, 25/30 frames per second. The camera offers numerous additional recording settings with different resolutions, frame rates, and interlace/progressive modes like 24p, 50i, and more. When recording in 4K mode, fast SDHC or SDXC cards are recommended.

The LX100 allows manual control of exposure settings when shooting videos. The method for changing aperture size



The LX100 created a sharp and detail-rich version of the standard test box shot. Blue elements like the spool in the upper right show very high saturation. The automatic white balance system did a good job and created a neutral gray background with only a very slight shift into the blue area.



The color reproduction in video mode is similar to the color reproduction in photo mode. Blue nuances are oversaturated, especially in the clear cyan tone in our test chart.






The portrait shot made with the Panasonic LX100 shows a slightly high magenta rate in the brighter skin tones. Fine details like the hair or the skin structure show some very hard and artificial sharpness.



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or shutter speed settings is similar to that used in photo mode; that is, the videographer has to use the aperture ring on the lens or the shutter speed dial on the top.

Users can also change ISO speed manually: in contrast to photo mode, the maximum ISO speed is 6400. Any attempt to use higher ISO speed settings will cause the camera to default back to ISO 6400. The camera also offers manual sound control wherein the user can define or change the sound level. Unfortunately, there is no microphone jack, which could be useful for even greater sound quality recording control.

COMMENTS ON VIDEO QUALITY

The Panasonic LX100 showed an excellent performance in our video tests. Full HD videos were reproduced with 847 of 1,080 lines per picture height, while 4K videos showed 1,832 of 2,160 lines in picture height. Just like in photo mode, sharpness is a bit exaggerated by the image/video processor. Hard

contrast lines show some overshoot and undershot halo effects.

The color reproduction in video mode is similar to the color reproduction in photo mode. Blue nuances are oversaturated, especially in the clear cyan tone in our test chart. In real-life scenes the camera showed natural-looking colors, albeit with high but not excessive saturation.

The dynamic range results are on a little lower level than in photo mode. The LX100 achieved a maximum of 10 f/stops in video mode: at most ISO speed settings it is between 9 and 10 f/stops.

The Panasonic Lumix DMC-LX100 has a list price of \$899. For more information, visit www.panasonic.com. ■

Image Tech is where we publish web-exclusive lab reports on cameras. To read the reports please go to the *Shutterbug* homepage at www.shutterbug.com and click on the Image Tech tab on the top navigation bar. New reports are published frequently, so check Image Tech for updates.

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CON

- Missing swivel monitor
- No built-in flash (camera is supplied with external mini flash)

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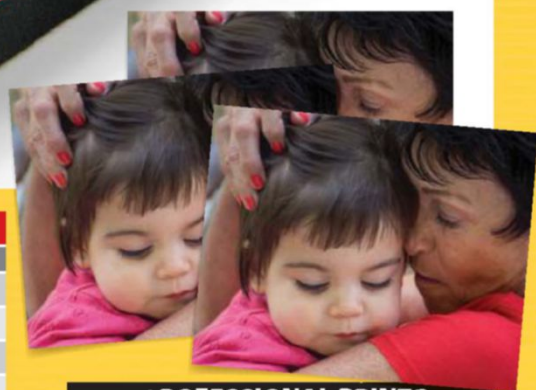
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The film holders are well constructed, with the film and filmstrip holders having a slightly diffuse transparent cover that aids in keeping even curly film flat.

Scanner Review: Epson Perfection V850 Pro

WE LOOK AT EPSON'S LATEST PROFESSIONAL SCANNER FOR FILM TO DIGITAL ARCHIVING BY GEORGE SCHAUB

EPSON ANNOUNCED TWO new scanners last year for those who want to archive their film files and/or create wall-worthy prints from their negatives and slides. The Epson Perfection V800 Photo and V850 Pro allow for scanning all sizes up to 4x5 inches using the supplied frames, and up to 8x10 inches without them, including creating contact sheets. While the V850 Pro is the subject of this review, I'll outline features and differences between the two as we go.

These are flatbed scanners and while there have been some doubts in the past about the usefulness of such for 35mm film, my work with the V850 soon dismissed those concerns. The units sell for (MSRP) \$949 for the V850 Pro and \$739 for the V800. I should note that

getting similar dpi capabilities with, for example, a medium format dedicated film scanner can easily cost twice as much or more.

V800 AND V850 FEATURES

Both scanners utilize LED light sources

that require virtually no warm-up time and to me seemed to “open up” tonal values, especially in black-and-white negatives. The newly designed frame film holders seem sturdy enough and after a short break-in period, snapped tight and snug over the strip and cut film sizes. (The 35mm-mounted slide holder has a slip-in clip arrangement.) The optics include Anti-Newton ring glass, which helps eliminate moiré patterns and color shifts.

Both models come with Digital ICE, the famed hardware/software dust and dirt removing utility that recognizes flaws and “moves” them to a layer that it eliminates during final image processing. (Note: As in the past, this does not work on Kodachromes and black-and-white film.) The differences? The V800 comes with Epson Scan software and LaserSoft Imaging SilverFast SE (V8) while the V850 comes with LaserSoft's SE Plus (V8), X-Rite's i1 Scanner and IT8 targets for film and reflective materials (photographs, etc.). Sold separately, SE Plus goes for about \$119 retail. The difference between the two SilverFast software sets has to do with some special features I suppose you could live without, with the Plus offering items such as multi-exposure scanning (increases dynamic range), a type of “auto contrast” control, a Kodachrome profile, and other advanced scanning features.

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TEST REPORT

But what should sell you on the V850 is the fact that it incorporates what Epson dubs High Pass Optics with an anti-reflection coating and a high reflection mirror for enhanced image quality. This setup can deliver 6400dpi (optical) when used with the film holders, resulting in a scan size from 35mm that is quite impressive. It is also said to deliver 33 percent faster scans than the V800. (I did not have a V800 to compare.) The V850 also comes with two sets of film holders so you can prep another set of images as your scanner does its work on the first, something volume users will appreciate. Anyway, if all that seems worth the \$200 extra, go for it—I think in the long run it is.

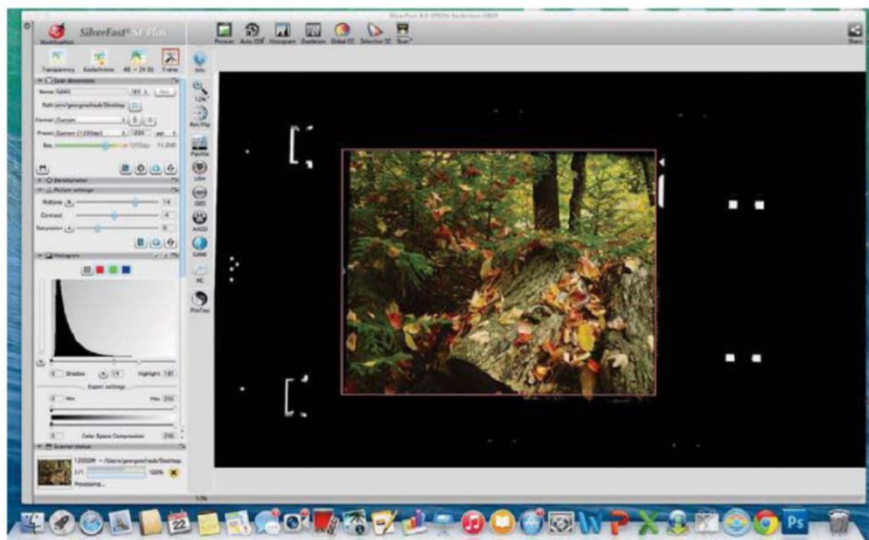
The unit weighs in at about 15 pounds and can take up a hunk of your desktop space, measuring 12-inches wide by almost 20-inches long. Although disks come with the software and utilities, it's always best to ensure the latest drivers, etc., by checking on the companies' websites, and making sure you register the products to get upgrade notices. I won't go into unpacking and plugging in, etc., as these are self-evident and available on a startup guide.

TO THE TEST: SOFTWARE

The place to begin is with software, as a scanner is basically like a toaster in the sense that once you push the button it goes about its business. That's not to say that optics, scan module, etc., are unimportant, but if you screw up in the software controls even the fanciest scanner specs will not get you out of a jam.

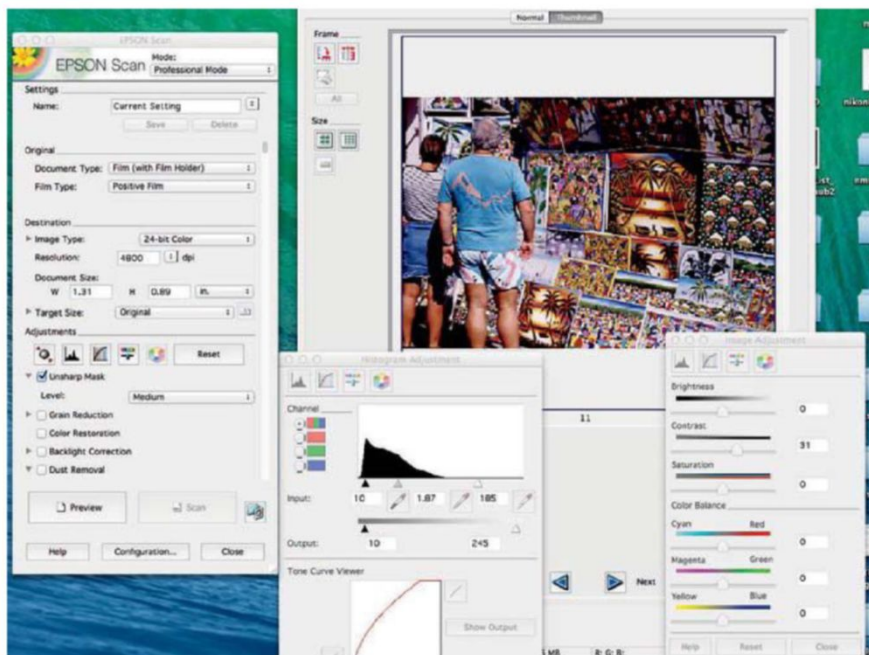
The first step is the Epson and SilverFast scanner drivers and software and the X-Rite i1 Scanner software for creating a color profile for the scanner. There are numerous (film) profiles preloaded into the supplied LaserSoft software itself. You shouldn't let the idea of profiling a scanner freak you out, as X-Rite has made it easy, and all you do is place the "target" in the 4x5 frame, place it in the scanner and let the software guide you along. There is also a "reflective" (print or document) profiler, but my work here was with film.

One important note: when given the option in the X-Rite software choose Version 2, not Version 4, which is the default. You then name the profile (the



SILVERFAST SE PLUS WORKSPACE

SilverFast software has a host of controls that allow you to define and shape the scan to your liking. Note the film profile panel on the left. All these controls stay workable even with 16-bit grayscale scans.



EPSON SCAN WORKSPACE

This screenshot reveals some of the key controls in the Epson Scan software workspace. Once profiled with the X-Rite i1 Scanner software it became my choice for transparency scans. While controls are not as extensive as in the SilverFast option, having a histogram, color and contrast controls can do the trick, especially when scanning 35mm slides at 6400dpi.

default name is scanner.icc) and choose it later when you get to scanning.

It's not my intention to rewrite the instruction book here but to give you my recommendations on the ways I found to get the most with each type and format of film and comments about quality, speed, and some basic controls. I'll do a quick walk-through on general scanning procedure with this unit first.

SCAN WORKFLOW

Like all software there is a learning period where you figure out shortcuts and what the optimum settings may

be. Reading the manuals is definitely recommended, and SilverFast even has embedded video tutorials. Generally, you put, say, mounted slides into the appropriate holder. You set up the parameters of the scan, such as dpi, destination folder, type of film, etc., in the workspace.

You then do a prescan, which scans each frame you have loaded. In the case of the Epson software you click on the "full frame" icon when the thumbnails appear, and then simply follow the "Next" arrows to work on each subsequent image.

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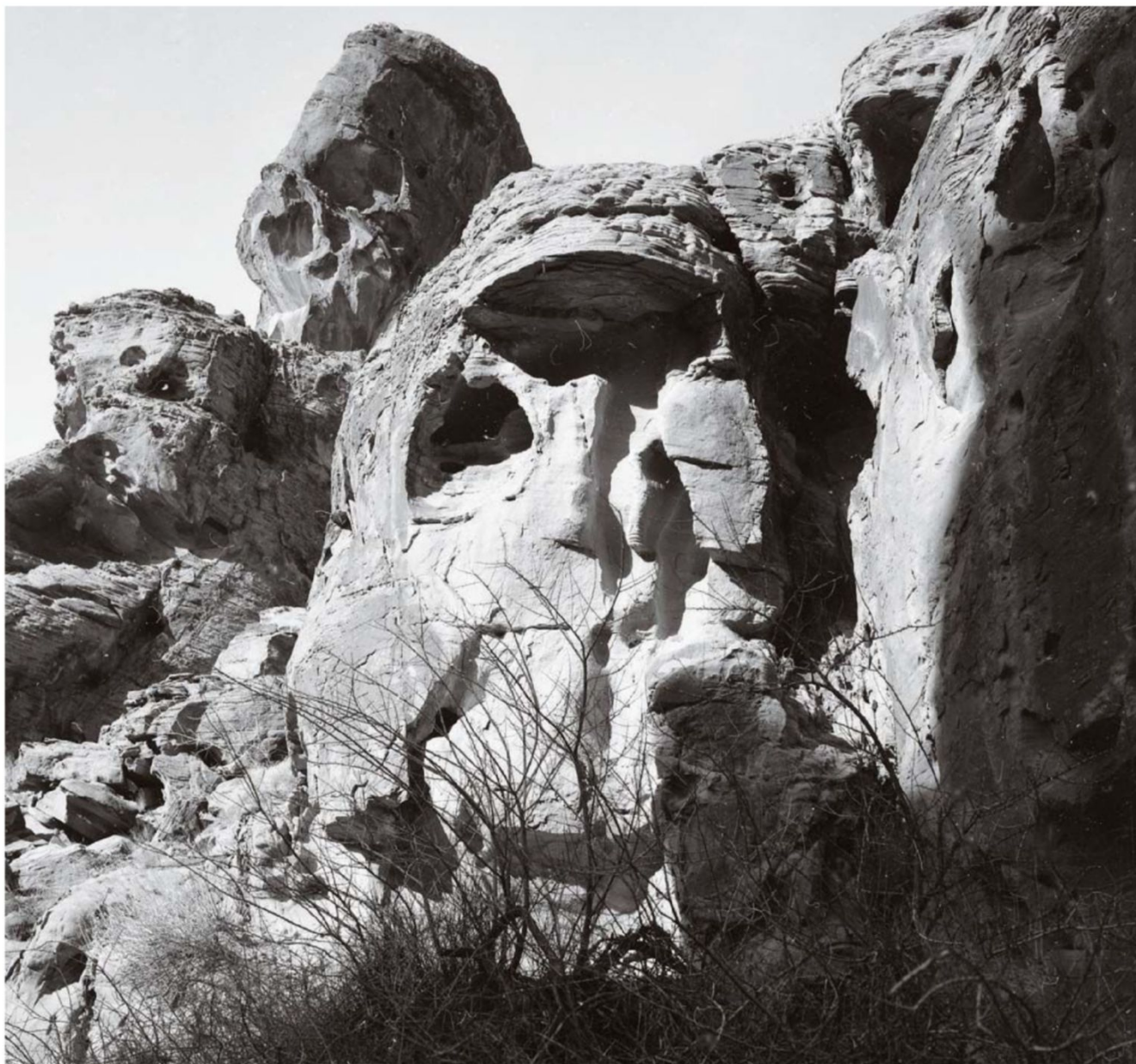
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BLACK-AND-WHITE NEGATIVE SCANS

This 6x6cm image made in New Mexico's Chaco Canyon was scanned using the medium format film holder and Epson Scan software. Minimal processing was required post-scan and the resultant file size was 330MB, enough for a 44-inch square print at 300dpi.



For SilverFast, define the frame(s) you want to work on by checking the thumbnail. You select a single thumbnail and then “Zoom” it up (Command/+ on the Mac) to bring it full screen to do any corrective work.

You are given a raft full of controls when the image is full size: color balance, contrast, brightness, bit depth, scan resolution, etc. (See screenshots and captions.) As the unit goes up to 6400dpi optical you can get quite good-sized prints (excellent 16x20 prints and bigger if the film image is right on) from 35mm, and considerably larger from medium format film.

There are practical limits, and all I can say is that when you scan you begin to see just what a cheap lens actually costs, so invest in an 8x loupe and use it as one of your chief editing tools. In scanning, you cannot make a silk purse from a sow's ear, though you can certainly improve the original image color and contrast.

FILMS AND FORMATS

Everyone has their own “philosophy of scanning.” For me, the scan should “do no harm” and the purpose of the work should be to capture every potential tone and color available in the film,

and no more. In other words, leave any highly interpretive renditions to later. Some might consider this as lacking creative intention, but as a former darkroom printer, and one who knows a bit about the power of Photoshop and other editing programs, my approach is to fix in the scanner when needed (it's like creating the “perfect” negative) to realize the best potential of the tonal and color balance and then refine later.

Film, by its very nature, is fairly circumscribed, at least after it's developed, so why narrow the choices even further during scanning?

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**COLOR TRANSPARENCIES**

For 35mm, load the 12-slide holder emulsion up (the flat side of the film) and open the Epson Scan software. Click on the Configuration button and choose the profile (icc.profile or generic Epson profile for the scanner) from the drop-down menu. Select your image parameters such as Film Type and dpi. For my work I selected 24- and 48-bit color and 3200dpi and 6400dpi. Then click Preview. (See illustration.)

In the Epson Scan software, the machine quickly (about 15 seconds) scans all the images and then presents you with thumbnails of each. Move the cursor over an image and click on the frame you want to work on, then click the Full Size icon on the left and you will get a larger preview. Then double-click on the image adjustment tools (histogram, color, etc.), and also choose if you want Digital ICE, called Dust Reduction) and do your work. At the base of the box is a “Next” button. Click on it to move to the next image and follow the procedures above.

After all are done to your satisfaction click on the Size button on the left of the workspace to bring back the corrected thumbnails. You can then uncheck any you do not wish to scan, then simply click on the Scan button in the control panel. If you haven’t already done so, set destination, confirm the profile, choose file format (TIFF or JPEG), and ID a folder. That’s it. Scan time is about one to two minutes per image, with a full clip taking about 16 minutes.

I scanned 35mm, 6x6, 6x4.5, 6x17, 6x9, 4x5, and even a couple of old Hasselblad super-wide 35s. Of course the better the image, the better the scan, but “corrective” work was easy thanks to a WYSIWYG work environment. Real dogs were a challenge, though color shifts could be corrected. Digital ICE worked great on funky old slides (and especially color negatives), but as mentioned will not work with Kodachrome emulsions.

Density loss is another matter as there’s no information in a burnt-out slide’s highlights. So, scan before your slides go off a cliff, which after a number of years they will, although I must say that late lamented Kodachromes shot as far back as 1972 held their own.

I should mention that SilverFast

**DIGITAL ICE**

The scratches and dirt software in both the Epson Scan (Digital ICE) and SilverFast (ISRD) software can do wonders, especially on very funky film like this 1984 color negative shot on South Las Vegas Boulevard. Note the horrendous condition on the scan done without applying the filter in this takeout (top, left) and the results with applying it (top, right). The full frame (above) is post-Photoshop, and is a prime example of photo archeology, as that iconic motel is long gone, replaced by one of the newer casino complexes on the south end of the Strip.

cautions you about image quality above 3200dpi for 35mm film, while the Epson software does not. Epson tech tells me that you can go up to 6400dpi when the film is in a holder because that signals the unit to kick in the high-res optics.

COLOR NEGATIVES

I never was much of a color negative shooter, but I managed to dig some out from 20 years or so back. The problem with color negatives is that there are so many film profiles, that is, brands, speeds, and even stock numbers from emulsion runs that could vary month to month. While the Epson Scan Professional Mode worked fine at approximating these profiles, I chose the SilverFast software because it has numerous profiles preloaded, that is, a

catalog of film brands and types. This is not foolproof because of the above-mentioned emulsion variations, but you can scroll through them to find one that will put you in the ballpark; start with the named film profile and go from there.

The 35mm film holder allows you to scan three strips of six frames, and it is pleasing and surprising in how fast the whole process proceeds. The workflow is the same as described in the color transparency section above, although SilverFast tempts you with many more processing options. The main difference is in how you get to full-view frames. In SilverFast you click on the thumbnail preview and use Command/+ on a Mac (similar on a PC) to “zoom” it to screen size.



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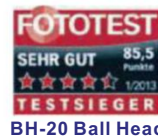
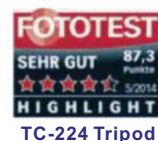


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**BLACK AND WHITE**

There are some challenges with black and white, with only one having to do with the scanner software itself, and that is that Digital ICE cannot help you with dust and scratches. Other than that, using SilverFast, I was able to both profile according to the software's extensive list of options (including chromogenic films) and control density and contrast—which is what you want to focus on. Unlike digital black and white, you cannot make selective “burn and dodge” moves and have to treat the negative as an “entity.”

This is probably the biggest challenge in doing black-and-white scans, and requires you do not overdo too-deep shadows or boost highlights for contrast. It's often a compromise, one where the “do no harm” edict is in full effect. Think of it as trying to create the ideal negative that later you can interpret and perhaps expand on when you go



The great thing about this quality scanner is that it encourages you to dig through the old files and resurrect images you made in the past, a form of photo archeology that can be fun and rewarding. This image was made on Kodak Tri-X at the New Orleans World's Fair in 1984.



© Grace Schaub

FILM PROFILES

While the Epson Scan software does a great job with most slides, SilverFast has the added option of very specific profiles for even esoteric films, such as for this Scotch 1000 emulsion. This is of great help with color negative films, but here was applied to get a quality scan from this ethereal image.

THOSE FILM HOLDER HEIGHT ADJUSTMENTS

The film holders have “height adjusters” at the four corners, sliders with five indents that raise the holder from the bed. The default height is the second indent. I queried Epson and they told me that this was a way to help focus the optics on the film plane, *should you notice unsharpness not evident in close inspection of the image through an 8x loupe* (my emphasis). This is supposed to make up for the effect of film curl or unevenness in the scan. Mounted slides always have a bit of a curl, and different mounts may have different heights (such as plastic vs. cardboard). The 35mm slide holders here are slotted and do not have a cover. (The medium format and negative film holders do.) Make sure all the height adjusters are at the same indent. If the scan is softer than you think it should be on a particular slide, try a higher or lower adjustment. This is a trial and error thing and may have to be set differently according to the slide mount type, but in any case always adjust the four sliders equally. You could, I suppose, unmount the 35mm transparency and use the covered holders, as prepress houses do. Frankly, I kept the height at the default and had no problems, but they are there if you want to try it.

to “print controls” in Photoshop, etc. Remember, watch those highlights, even if the scan is a bit soft in contrast. This is one discipline where those who have worked in the darkroom will have an advantage, but make some mistakes and you'll learn soon enough.

Some of my older negatives (40 years back!) were pretty ragged, and all I can say is to care for your negatives well, and get them out of any non-archival storage sleeves or containers today. But even those that had lost density (where the shadows were mere ghosts of their former Zone 3/4-ishness) were rescued to some extent. (By the way, if you want 16-bit black-and-white (grayscale) negative scans, use SilverFast, as the Epson Scan limits the options that reveal themselves when 8-bit output is chosen.)

RECOMMENDATIONS AND CONCLUSIONS

I have worked with numerous scanners and scanner software packages over the years and can say without reservation that the Epson Perfection V850 Pro is the best affordable scanner yet.

While those without scanning experience will have some learning to do, it's well worth the effort for the results you can achieve. The speed, high resolution, available controls,

and impressive output make scanning fun rather than a chore. I consider this unit an excellent choice for schools, workshops, photo clubs who share gear, and for the individual photographer who has catching up on film files on their bucket list.

Those with film archives who want to extend the life of the image into the digital age (thus counter film's inexorable and inevitable destabilization) or prep images for large inkjet prints or to send to stock files will benefit from this unit. But I also consider it an excellent choice for those who still shoot film and want to create prints without having to resort to the chemical printing darkroom or who want to ready their work for the web imaging scene.

The combination of these large, high-quality scans and a good inkjet printer is hard to beat, and is in fact the method practiced by a good number of the icons of the previous silver print world.

I recently resurrected my old Rollei 2.8E and bought a 120 rollfilm developing tank. Now that I know that I can confidently get great 120MB and larger files in simple fashion without having to spend five grand on the next full-frame, multi-megapixel DSLR, I can't wait to start shooting with that classic again. ■

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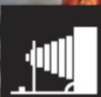
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LIGHTING

ROUNDUP

MACRO RINGFLASH

I photographed this strange plant life-size at f/16 with the Canon EOS 6D and MP-E 65mm f/2.8 1-5x Macro Photo lens handheld, employing the Canon MR-14EX II ringflash. Setting the ringflash to a 1:8 ratio added some modeling and shadows.

Ready for Your Close-Up?

OUR FAVORITE LIGHTING TOOLS FOR MACRO PHOTOGRAPHY

BY JACK NEUBART

LIGHT IS A precious commodity in close-up and macro photography. The closer you get to your subject, the more light you lose through lens extension. Move to within inches of the subject and your camera or body may block the existing daylight. Also, the closer you get, the more depth of field you lose, so it would help to stop down. All of this translates to a need for additional light—in other words, a supplementary light source. What's more, when shooting live critters and wind-blown plants, we may also need that light source to freeze subject movement, or at least provide shutter speeds that are fast enough to contain movement. To meet these needs, I've often turned to a macro ringflash and, alternatively, a macro twin flash. An economical alternative is an LED ringlight.

The following are my choices for the best macro lighting tools out there right now. Additional options are outlined in the accompanying sidebars.

RINGFLASH

Essentially wrapping the subject in light, thereby producing what many of us perceive as shadowless illumination, a ringflash is the most familiar macro lighting tool. (Point of fact: if you look closely, it's not entirely shadowless.) Positioned so that it moves with the lens, the ringflash finds its way past obstacles that would ordinarily hinder a shoe mount seated in its lofty tower. Since it is in line with the lens, this flash head lights what the lens sees.

The ringflash head may be fitted directly onto the lens or, as is more often the case, requires a screw-in stepper adapter as a go-between. Adapters cover



Canon Macro Ring Lite MR-14EX II (\$549; www.usa.canon.com). Canon-dedicated E-TTL II support; acts as wireless master for compatible flashes; twin-tube design with ratio output; LED focusing lamps; supports wireless control; GN 34.4 (ft)/ISO 100; optional adapter required for lenses with filter diameter larger than 58mm.

a wide range of filter diameters from 49 to 77mm (some or all of which may be included or optional).

Power is normally delivered to the connected ring housing via a battery/control module seated in the camera's hot shoe. The ringflash head is designed so that it can freely rotate around the lens axis, if for no other reason than to let you move the connecting cable out of the way.

Once very basic, the ringflash has grown increasingly sophisticated, with costlier units offering digital displays and TTL auto flash control. In selected units, you can shunt power independently and entirely to either of a pair of matched flash tubes that reside within the housing, or ratio power between them. This provides some degree of modeling. Contrary to what you may read, this does not constitute a "3D" effect. All that aside, I often find it easier to employ default settings when tracking a moving subject.

PROS: "Sees" what the lens sees and squeezes into tight spaces; relatively easy to use; unless light ratios are employed, affords little concern over the flash head's orientation about

the lens axis with respect to camera orientation—vertical, horizontal, or diagonal; lends itself well to handheld shooting.

CONS: The most capable ringflashes are pricey.



Dot Line DL-DRF14 (\$139; www.dotlinecorp.com). Canon E-TTL II/Nikon i-TTL support, as applicable; GN 46 (ft)/ISO 100; includes 55 to 67mm adapters.



Metz Mecablitz 15 MS-1 Digital Kit (\$398; www.metz.us). Wireless TTL via built-in flash triggering on-camera; built-in support for popular camera brands (via menu); ratio output; GN 50 (ft)/ISO 100; LED focusing lamp; 52 to 72mm adapters included.



Nissin MF18 (\$439; www.nissindigital.com). Canon E-TTL II/Nikon i-TTL support, as applicable; acts as wireless master for compatible flashes; GN 52.5 (ft)/ISO 100; LED focusing lamps; fits 52 to 82mm filter threads.



MACRO TWIN FLASH

I captured this butterfly wing life-size, shooting handheld at f/16, with the Canon EOS 6D, MP-E 65mm f/2.8 1-5x Macro Photo lens, and Canon MT-24EX twin flash at the Peggy Notebaert Nature Museum butterfly house, Chicago.



Olympus SRF-11 Ring Flash Set (\$558 with FC-1 controller; www.getolympus.com). Olympus TTL dedicated; GN 36 (ft)/ISO 100; compatible with selected Digital Zuiko lenses; may require an accessory adapter.



Phoenix SmartFlash RF46 (\$89; www.omegabrandess.com). Canon E-TTL II/Nikon i-TTL support, as applicable; GN 46 (ft)/ISO 100; 55mm, 58 to 67mm adapters included.



Sigma EM-140 DG Macro Flash (\$379; www.sigmaphoto.com). Wide TTL support (for brand-targeted models); acts as wireless master for compatible flashes; GN 46 (ft)/ISO 100; user control over dual flash tubes; 55 and 62mm adapters included.



Vivitar DF-586 (\$89; www.vivitar.com). Canon E-TTL II/Nikon i-TTL support, as applicable; GN 59 (ft)/100 ISO; fits 52 to 62mm filter threads. Photo by Jack Neubart.



Pentax AF160FC Auto Macro Ring Flash (\$442; www.us.ricoh-imaging.com). P-TTL support; GN 53 (ft)/ISO 100; daylight-balanced; LED focusing lamps; 49 to 67mm adapters plus macro adapter for Pentax D FA-series macro lenses included.

Pro Tip: Macro Focusing

Whatever the light source, focusing at life-size and larger magnifications (and even half life-size) is critical, even if you stop down. When shooting handheld, focus manually and use to-and-fro movement of the camera until the subject appears sharp along a single plane of focus.

MACRO TWIN FLASH

When you need to manipulate the light even further, the next option is a macro twin flash. While output in any macro flash falls well below that of a typical shoe mount, the combined output from the twin flash heads produces considerably more light than would a ringflash (at least among products from the same company).

Each component flash head is seated on a collar attached to the front of the lens (again, adapters may be involved—and included, or not). Shrunk down to roughly the length of an AA battery, each of the matched mini flash heads can be independently angled relative to the subject plane, and moved individually or together on the collar around the optical axis, allowing for a more targeted subject treatment. Because these flash heads have a built-in foot, they can also be attached to a bracket or tabletop tripod, or one can be handheld while the other remains attached to the lens.

With rare exception, each flash head is connected to a controller/battery module seated in the camera's hot shoe. Individual output control over each of the flash heads is the norm.

PROS: More versatile and more powerful than a ringflash; well suited to handheld shooting.

CONS: Continually adjusting flash heads can drive you batty; can produce double shadows; concern over obstacles blocking one or both flash heads (if extended); pricey.



Olympus STF-22 Twin Flash Set (\$739 with FC-1 controller; www.getolympus.com). Olympus TTL dedicated; twin flash heads with focusing lamps; ratio control; GN 72 (ft)/ISO 100; compatible with selected Digital Zuiko lenses; may require an accessory adapter.



Sony HVL-MT24AM Macro Twin Flash Kit (\$598; www.sony.com). Sony TTL-dedicated support; twin flash heads on extended arms; ratio output; GN 79 (ft)/ISO 100; 49 and 55mm adapters supplied.



Canon Macro Twin Lite MT-24EX (\$829; www.usa.canon.com). Canon-dedicated E-TTL II support; supports wireless control of remote E-TTL II shoe mounts; twin flash heads with focusing lamps; GN 78 (ft)/ISO 100; optional adapter required for lenses with filter diameter larger than 58mm.



Nikon R1 Wireless Close-Up Speedlight System (\$489; www.nikonusa.com). Wireless i-TTL via built-in flash triggering on supported Nikon cameras; twin flash heads with focusing lamps; ratio output; GN 46 (ft)/ISO 100; optional adapters required with certain lenses. (RIC1 includes wireless controller.)

LED RINGLIGHTS

In recent years LEDs have found their way into ringlights (sometimes as the focusing lamps on a macro flash). As a continuous light source, they remove concern over flash sync speeds and dedicated connections of any kind. A few LED ringlights also operate as a flash and feature a live hot-shoe contact (non-dedicated, for use with any camera's hot shoe). And some even let you turn off one half of the ring for modeling. One variation includes extension arms for more flexible lighting options.

PROS: Constant light output is easy to preview and meter; often inexpensive; easy to use; usable with any camera shooting mode (program AE, for example).

CONS: Output may be too weak to overwhelm bright ambient lighting and inadequate for handheld shooting at normal ISO levels; flash mode does not freeze movement.



Digi-Slave Flex-Ring 6400 (\$359; www.srelectronics.com). 64 LEDs; variable power; flash mode; flexible extension arms; 72mm filter thread (optional adapters: 52 to 77mm).



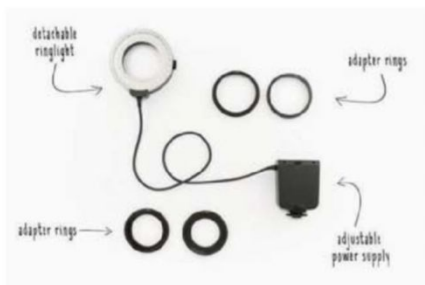
Dot Line DLC Hybrid Ringlight and Ringflash RLF80 (\$159; www.dotlinecorp.com). 80 LEDs; 5600K; variable output; flash mode; fits 52 to 77mm filter threads.

Flashpoint VL-48 Macro Ring Light (\$59; www.adorama.com). 48 LEDs; controllable output via LCD panel; left/right half priority; flash mode; color and diffusion attachments included; comes with 49 to 77mm adapters.





Kaiser KR 90 LED Ring Light (\$375; www.hpmarketingcorp.com). 30 three-chip LEDs; daylight-balanced; variable output; lightweight Duralumin construction; built-in rechargeable lithium-ion; 77mm filter thread; 52 to 72mm adapters included.



Photojojo Oh! Wow. Ring Light (\$99; www.photojojo.com). 60 LEDs; 3200 to 5500K; variable output; flash mode; includes 49 to 77mm adapters; for Canon/Nikon.



Polaroid PLMRFU Macro 48 LED Ring Flash (\$55; www.polaroidstore.com). 48 LEDs; flash mode; controllable output; various light-altering attachments included; fits lenses with 49 to 77mm filter threads; for Nikon/Canon.



Sony HVL-RL1 Ring Light (\$348; www.sony.com). Variable output; left/right half priority; fits 49 and 55mm lenses (adapter required for certain lenses).



Strobies LED Macro Ring Light (\$76; www.interfitphotographic.com). 80 LEDs; flash mode; 5600K; variable output; fits 52 to 72mm filter threads.



Sunpak DSLR67 LED Macro Ring Light (\$27; www.tocad.com). 12 LEDs; flexible gooseneck supports 67mm inner-diameter ring floating around lens (no direct attachment); 5500 to 6500K; two power settings.



Vivitar DR-6000 Digital LED Macro Ring Light (\$49; www.vivitar.com). 12 LEDs; 5600K; fits 52 to 67mm filter threads. Photo by Jack Neubart.



Xit XTLMRUN Pro Series Universal LED Macro Ring Light (\$35; www.xit-group.com). 32 LEDs; flash mode; 5500K; variable output; left/right half priority; fits 52 to 77mm filter threads.

Wireless Control for Macro Flash

OEM and non-OEM TTL-dedicated ringflash and twin flash units alike may offer wireless control. Normally, the macro flash serves to trigger remote, off-camera flash units. This way you can throw an auxiliary light on the background, while the triggering strobe illuminates the subject. This control unit defines channels, groups, and relative output for the involved flashes. This group includes the Canon MR-14EX II ringflash, Canon MT-24EX twin flash, and Sigma EM-140 DG ringflash. There are exceptions, where the macro flash operates as the slaved unit. In this scenario, either the camera's built-in flash or a special accessory module seated in the hot shoe serves as master to trigger the remote ringflash or twin flash heads—remote in the sense that they're wireless, even though attached to the front of the lens. Included here are the Metz 15 MS-1 ringflash and Nikon R1 twin flash.

PROS: Gets rid of intrusive cables; easily suited to handheld shooting.

CONS: Not available for all camera systems or necessarily cross-compatible with all wireless flash units; camera may require a dedicated TTL trigger mechanism seated in hot shoe (which adds to overall cost); bright sunlight may interfere with the signals; direct line of sight required between flash sensor and triggering pulse (in case flash head is detached from lens); pricey.

DON'T BE AFRAID TO GET CLOSE

Those of you who are put off by flash and shoot close-ups strictly by available light should look into an LED ringlight, but one with enough power to blast through bright daylight. It's a simple solution, though not always the most practical at every turn.

However, if you're like me, I expect you'll turn to a macro ringflash or macro twin flash—they really do simplify close-up flash photography once the two of you get thoroughly acquainted. Admittedly, I've adapted my shoe mount for close-ups, especially with zooms, but I always keep a ringflash at the ready as an able companion for my macro lens.

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Ringflash Adapters

Much larger than the typical ringflash, a ringflash adapter is not a flash unit in and of itself. This somewhat circular, plastic device attaches to a shoe-mounted flash (some might say rather clumsily), which pumps light through it, with a potential loss of up to several stops of light.

These devices are normally used for fashion and portraiture, producing those halo-like catchlights in the eyes that some find alluring. However, manufacturers claim they have equal utility in close-up work. I've found that a ringflash adapter is an inferior alternative to a ringflash.

PROS: Works as an extension of a typical shoe-mount flash, so no new gear to learn.

CONS: Large, clumsy; loses up to several stops of light; uneven light coverage at macro magnifications; lens barrel or lens shade may interfere with light throw.

(Note: When ordering any of these, make sure the attachment fits your flash properly.)



Orbis Ring Flash (\$199; www.omegabrandess.com).



Photojojo Ring Flash Adapter (aka O-Flash) (\$40; www.photojojo.com).



Ray Flash 2 (\$139; www.expomaging.com).

Macro Flash Brackets

Another approach to close-up and macro photography involves a bracket that holds one or two flash heads off-camera, with the bracket attached to the camera's tripod socket or the tripod mount on a lens.

There are two types. One holds a single shoe mount on an articulated arm. The other consists of a base that extends several inches to either side, with each flash seated on an articulated arm or flexible rod, or more or less directly on the base, at opposite ends. Where necessary, soften the light with a dome diffuser or bounce panel.

Twin flash brackets can be a very weighty and somewhat cumbersome proposition for handheld photography. Hence, when I use them, I attach macro twin flash heads to them, for a more manageable rig. Even if this doesn't give me more light, I still benefit from added maneuverability of the flash heads.

PROS: Allows you to work with existing shoe mounts; adds unbridled flexibility in lighting; no concern over stressing AF motors or rotating lens barrels since the rig is independent of the lens (other than the tripod mount, where applicable); not overly pricey.

CONS: Cumbersome and best suited for use with a tripod; twin-mounted shoe mounts may produce double shadows; care must be exercised so that obstacles don't interfere with extended flash heads. ■



Kirk Macro Flash Bracket with Quick Release (\$239; www.kirkphoto.com).



Lucas Macro Flash Bracket (\$199; www.lucasstrobesystems.com).



Manfrotto 330B Macro Flash Bracket (\$59; www.manfrotto.com).



Novoflex UNIMARM Flash Bracket with Two Arms (\$330; www.hpmarketingcorp.com).



Olympus Twin Flash Bracket (FL-BKM03) (\$155; www.getolympus.com).



Wimberley F-3 Telephoto/Macro Combo Flash Bracket (\$299; www.tripodhead.com).

Photos courtesy of the respective manufacturers, except where noted.

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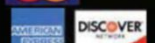
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CLIENT: FLEURIE

Cowart captured this portrait of musician Lauren Strahm, known professionally as Fleurie, by aiming his Canon EOS 5D Mark III through the viewfinder of a camera made in the 1940s that he'd bought on eBay. "For our shoot, I told her to just show up and we'll play and experiment." Cowart produced numerous other shots, each involving an esoteric process to give these portraits an edgy quality.



well-known photographer. I don't find that very fulfilling. What fulfills me is to do things that are bigger than myself. I try to do as much of that as I can and I plan on doing more projects like that in the future."

Cowart, of course, has a professional side that keeps him busy outside of his social media and humanitarian efforts. As a portrait photographer, he captures celebrities and the music industry, including many pop icons. His clients range from commercial TV stations to magazines catering to pop culture, as well as music labels.

SOCIAL MEDIA PIONEER

Long before Facebook, Twitter, Instagram, and everything else, Cowart was connecting with fellow creative people in real life and online.

"Back in the early 2000s, I started a group called the '615,'" Cowart recalls. "That was a huge community of web designers, because that's what I was involved in at the time. And then I started an e-mail list with all my friends. So I've always been a social herder, if you will. And when Twitter came about in 2006, I immediately got on board, which was long before anyone recognized its potential. And from there my social media involvement mushroomed. It's become a huge part of my career and everything I do now."

Cowart says he has his most followers on Google+, of all places, but his "most engaged audience" is on Twitter, with "substantial involvement on Facebook and Instagram as well."

But there's a limit to sharing. "I don't share photos of my clients until they're released. But once they release the image to me, I will share it." And regarding concerns over copyright, Cowart points out: "You can't not share your work. Once it's on the Internet, you have no control. I've stopped worrying about that."

NEW OUTLETS

Cowart, admittedly, spends quite a bit of time on social media. "There are some days when I tweet and post way too much. Lately I haven't been posting much at all because I've been focused on so many other things and I'm moving into a new photo studio. But I plan to hit the social media hard in the new year."

Socially Conscious

FOR PHOTOGRAPHER JEREMY COWART, SOCIAL MEDIA IS AN ART, A MISSION, AND A CAUSE

BY JACK NEUBART

JUST HOW INFLUENTIAL is photographer Jeremy Cowart? Wi-Fi card manufacturer Eyefi recently named him the "most socially influential photographer" in the world. But for Cowart, the operative word is "social," even more so than "social media." His online efforts go well beyond using online sharing sites to simply promote his image and his work. He's out to change the world.

"All my community outreach programs are photography-related," Cowart says. "One example is Help-Portrait. Help-Portrait is a very simple idea I had in 2008, to give back to people in need through photography. We do photo shoots for them, and we even include makeovers and feed them. Then we print the pictures on the spot, so they leave with a portrait print of themselves."

Where some photographers, correctly, see social media as a form of "free" advertising, Cowart likens it more to social activism, especially through programs like Help-Portrait.

"We've heard all kinds of stories over the years as a result of our efforts. It's even helped people get jobs or provided a means to reconnect with relatives they haven't seen in years," he explains. "Essentially, it helps to give unfortunate people a feeling of self-worth and restore their self-image." Engaged in this project is a worldwide network of photographers, in over 70 countries and in every state in the Union.

"I just want to use my photography to do something bigger than building my portfolio and building my name. At the end of the day, my goal is not simply to be a

CLIENT: ANNA NALICK

Singer/songwriter Anna Nalick needed a portrait for her album. She was lying down, as one of many poses during this shoot, with the camera and a beauty dish aimed straight down on her from above.

When asked how he finds time for work amidst all this social connecting, he replies: "It's hard. I have to balance the two."

That said, he is constantly on the lookout for new social media, and there's one that he particularly recommends: Ello (www.ello.co), and note that's not .com, which would be a different website). The site promotes itself (in their words) as "a simple, beautiful, and ad-free social network created by a small group of artists and designers." The site was in Beta at this writing, accepting members by invitation.

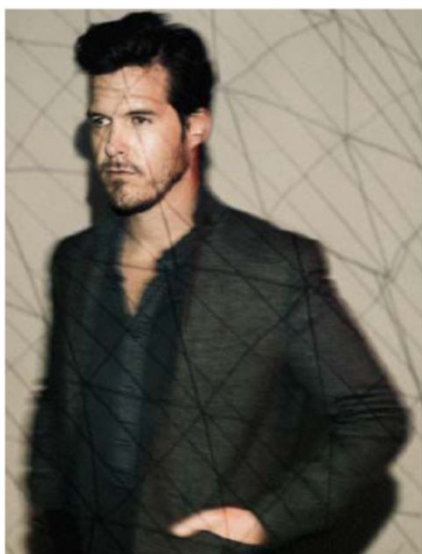
USING SOCIAL MEDIA TO YOUR ADVANTAGE

Social consciousness aside, a photographer must still make a living from his craft. And toward that end, "social media is a must these days for a photographer," he observed. "You can get work through it; you can spread name recognition in so many ways. There are a lot of photographers getting work because of or through Instagram."

And how does one maximize return for the time spent on social media? "There's no specific method. You just have to be consistent and stay with it, and be yourself. Wear your heart on your sleeve; be funny and be engaging. There are all kinds of different ways that can come back to help you. For me, I have lots of sponsors, where I get gear and equipment that I love and use. I help those companies spread the word on those products. Today I landed a big job thanks to social media. There are all kinds of stories on how it can help photographers."

SOCIAL MEDIA TIPS FROM JEREMY COWART

"I encourage people to stop comparing themselves to everyone else online. That's a trap that most photographers can fall into, including myself. I've been there. Sometimes you have to take a break altogether. Like anything else. You have to establish your voice and your vision. And post as frequently as possible. Tell your story and try to be human, but also make sure your images are good."



CLIENT: TEN OUT OF TENN

Co-founder of Nashville indie-pop group Ten Out of Tenn, Trent Dabbs is featured in this promotional shoot celebrating the 10-year anniversary of the band. A projector was used to throw different textures on the subject.



CLIENT: AUGUSTANA

This studio portrait was shot for the performer's most recent album, "Life Imitating Life." Cowart lit the artist, who was posed against a painted canvas backdrop, with a gridded beauty dish.

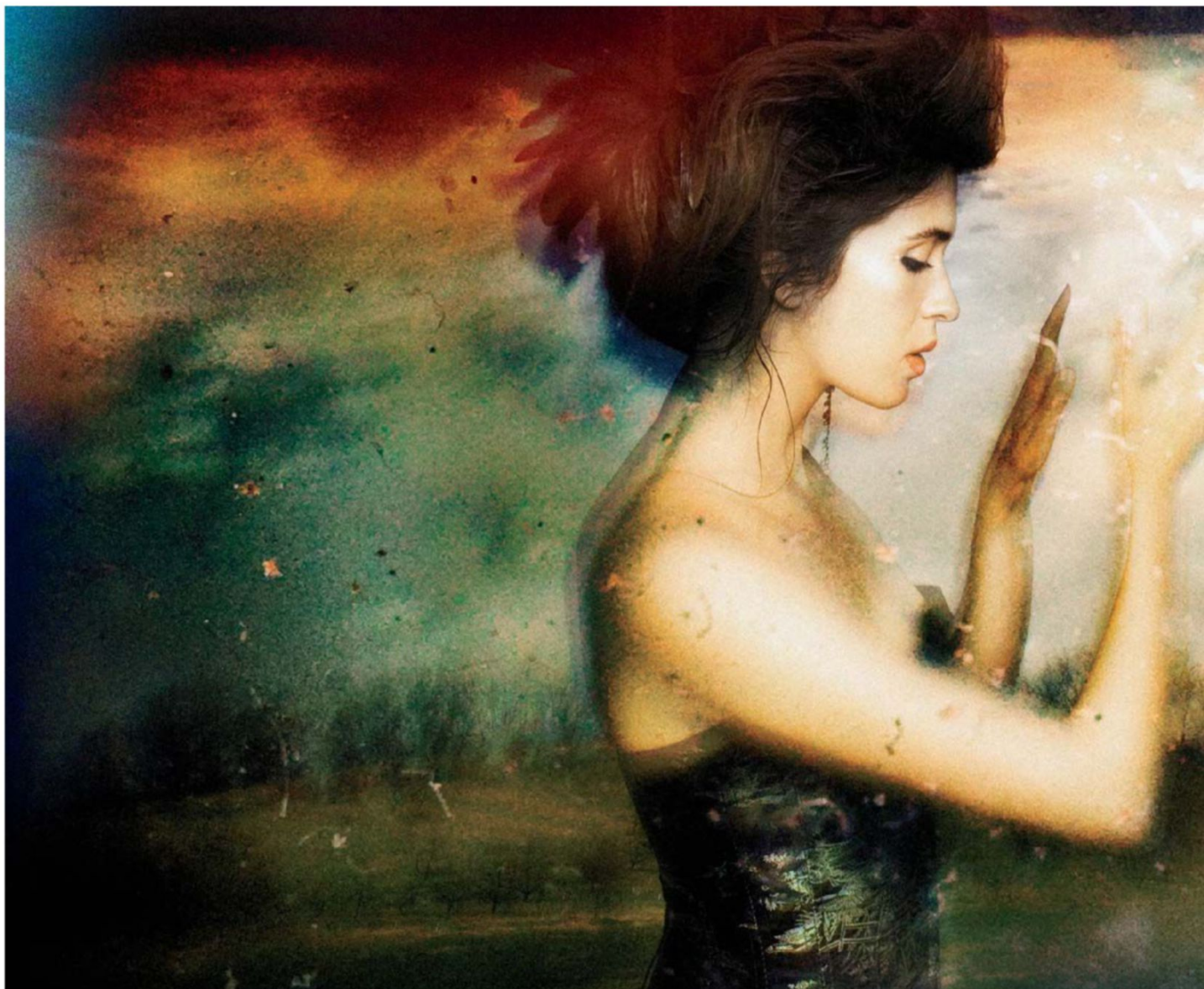


TECHNIQUES

PRO'S CHOICE

CLIENT: IMOGEN HEAP

Describing singer/songwriter/composer Imogen Heap, Cowart noted: "She's a very ethereal artist, and I wanted to match the vibe to her music." She was actually holding a deer head, but Cowart retouched out the head in Photoshop to focus greater attention on the pose.



CLIENT: IMOGEN HEAP >

This shoot was a collaboration between Cowart and the artist, to promote her album. They'd agreed to meet in Iceland for the outdoor shoot, in freezing conditions. Because of the harsh winds, Cowart positioned a Profoto softbox with battery-powered strobe at eye level, to prevent the light from toppling to the ground.

< PERSONAL

Cowart was a volunteer with an organization called myLIFEspeaks, in Haiti. "I was walking back with a group and saw this scene, which stopped me in my tracks. So I grabbed the shot with the Fujifilm X100S I was carrying."



PERSONAL

"While working on a personal project, we were passing through a village in Rwanda and I'd decided to grab some quick portraits." Shooting with his Canon EOS 5D Mark II, Cowart employed a reflector and an Octabank to capture this telling expression.

When asked to compare social media and promotional tools such as the Workbook and mailers, Cowart pointed out that "it's always good for an art director or client to have something tactile, that they can hold and look at. But more and more, that need and that desire are dwindling. Art directors are getting younger and younger and more social-media driven, so they're used to looking at things on their phones and computers."

We should also note that, while he uses social media to promote his work, Cowart does not use it to sell stock. However, he does sell prints online.

Returning to our opener on Cowart as the most influential social media photographer, I asked him how, exactly, was he influential.

"I don't really know," he replied modestly. "I was very surprised by that news. I just try to be relatable. I

don't think that highly of myself. I try to stay humble. And just be a friend to people. Respond to people. I engage with my audience. I try to be honest about mistakes and failures along the way. I guess that whatever I'm doing in that regard seems to be working." ■

Jeremy Cowart is based in Nashville, Tennessee, working in his studio and on location with first assistant Andre Martinez. To see more of Cowart's work, visit www.jeremycowart.com. Be sure to check out the blog on his site. The blog is where you can download his insightful Photographer's Toolkit, where you'll find all the gear he uses and why. He also very recently launched a new project called See University, an online training platform (domain name to come). Cowart also offers a free iOS app called OKDOTHIS, a database where people can view and respond to each other's ideas.





Doing Well By Doing Good

HOW TO HELP OTHERS
(WHILE HELPING YOURSELF)
BY DONATING PHOTO
SERVICES TO CHARITIES
AND NONPROFITS

BY MARIA PISCOPO

THIS IS ONE of my favorite topics: photographers doing good works by donating photography services to charities and other nonprofit organizations. In this column, I'll look at how to make a living while making a difference. For starters, donating your photography to a good cause will help you develop business skills. It will also give you access to people and places for portfolio development and allow you to meet an amazing network of new friends. Organizations you can donate your photography to range from local to global and cover a variety of issues from healthcare and education to shelter animals. Sincere thanks to our contributors for their work: Luke Copping, Tim Courtney, Cathy Greenblat, and Isaac Howard (websites at end of column).

SHUTTERBUG: What nonprofit or charity do you work with and how did you get involved with their cause?

LUKE COPPING: I work with the Friends of the City of Buffalo Animal Shelter. I create portraits of many of the rescue and foster dogs in their care to help aid in adoption campaigns and to place

dogs in great new homes as well as help some of the longer-term residents who might be overlooked. I started working with the shelter through my fiancée, Erin, who has been volunteering at the shelter on and off for years. The oldest of our three dogs, Akasha, was a rescue from the city shelter and when I started to photograph our own dogs Erin suggested that I might be able to help out the shelter with their adoption program. Many of the photographs were taken by volunteers, and while there were some great action and candid shots of the dogs, there were no portraits that really captured their personalities and helped forge a connection between them and potential families. Erin connected me with some volunteers from the shelter and my first session had me working with two very young pit bull puppies who had been found abandoned in a dumpster and nursed back to health. Within days of the images going public, both dogs had found amazing new homes. Since then I have also contributed images to my friend and fellow photographer Douglas Sonders's notabully.org initiative, which works toward changing the unfair stigma

surrounding pit bulls and ending breed specific discrimination.

ISAAC HOWARD: I have worked with many different nonprofits: local, regional, and international. Most recently I have been working with Hope in Haiti (HIH) and Global Training Network (GTN). Both organizations are faith-based groups that support education.

TIM COURTNEY: Picture Me Happy is a nonprofit 501(c)(3) I founded in 2007 while living in Los Angeles. I took the concept of my professional career photographing celebrities for magazine covers into the Mattel Children's Unit at UCLA Medical Center. I gave the children instamatic cameras and a little inspiration to take photos and create their own personal magazines. It was an immediate hit with the kids in the playroom and undeniably distracted the children from their illnesses. Picture Me Happy is now classified as an "Arts in Medicine" program.

CATHY GREENBLAT: In 2001 when I was about to retire from a 35-year career as a professor of sociology, I took up photography, combining my sociological perspective and knowledge with my photo skills. I didn't know the subject



© Luke Copping

matter I would focus on but I knew I would avoid one that was very painful to me: Alzheimer's disease. Watching two beloved grandparents die with this problem, I had bought the conventional wisdom that once diagnosed the person was no longer able to converse or do other things, an empty shell. "Care" primarily meant keeping them safe and even the best care facilities did little more than "warehousing." At the conclusion of a Master Class with Mary Ellen Mark in the spring of 2001, she urged me to continue the small project I had undertaken with her, photographing at a municipal old age home. My first opportunity soon arose and all my knowledge was challenged as I saw care that was loving and effective, and people who were active, stimulated, and responsive. I subsequently produced a 36-photo exhibit and a book, *Alive With Alzheimer's*, published in 2004 by the University of Chicago Press. I began to give photos away to worthy places and to lecture about the phenomenon of change in care practices. An exhibit of 36 photos was invited to Kyoto, Japan, and Munich, Germany, and I began to accept such invitations where they could connect me with opportunities to photograph the best care practices in their cities. None of this work was done with financial support or payment. If I had not had a modest retirement income from my academic career, I never could have devoted the time and money to creating a large bank of images from eight countries. This resulted in a new exhibit, which debuted at the National Academy of Sciences in Washington, DC.

At that point I made an important connection with Alzheimer's Disease

International (ADI), a nonprofit organization that is the coordinating body for almost all of the national Alzheimer's organizations around the world. I received travel expenses and costs of shipping were covered by the grants we obtained, but I was not paid for the exhibits.

Occasionally I was asked by researchers or organizations for permission to use some of the photos. These were almost all nonprofit organizations and, whenever I felt the work they were doing was important, I either offered images at no charge or at a very low cost. The most extensive use of the photographs was by the Alzheimer's and Related Disorders Society of India (ARDSI). They used my photographs in many publications, and toured an exhibit of 45 photographs around the country for several years. Then the book *Love, Loss, and Laughter: Seeing Alzheimer's Differently* was published in March 2012 in conjunction with exhibits in London and New York City.

The story of the palliative care project is simpler. I had a loose liaison with the International Palliative Care Association and I photographed in France, the USA, Japan, and India in the same self-supported fashion. I believed I could make a difference in how people faced end-of-life issues by showing them photos mixed with text. I exhibited the photographs in several places, including the European Palliative Care Association's conference, several medical conferences, and at the University of Texas Medical School.

SB: How does the organization you work with best use your photos for their cause to make a difference?

ISAAC HOWARD: Both HIH and GTN use the images on their websites, direct mailings, newsletters, and point of contact. All usages are to help expand awareness to their purpose and to raise financial support. I found the hardest part of doing this type of photography is capturing the purpose of the team. You can and do take a lot of pretty pictures, always looking for that great shot. But you have to remember you are there for the purpose of the team and trying to show what their work is about, not yours. When I first started doing this type of work I used film. I was tasked with showing each person on the team doing their job. The end result was a set of 140 slides of the trip with a set given to each member. The goal was for them to take the images back to their church or civic group to show them



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in the community to increase project awareness and this aspect was very effective.

CATHY GREENBLAT: ADI used the photos in many of their publications for about five years, including annual reports, special publications as well as the cover and inside of an important report published in collaboration with the World Health Organization. They also referred many national associations to me for photographs to use in their efforts to increase awareness. These were uses that I felt benefitted them and honored me.

TIM COURTNEY: Due to HIPPA law/child and family privacy, we have few and select times in taking images of the seriously ill children we serve. We use these images for newsletters, e-mails, our website, social media, print and electronic fundraising materials, the



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© Luke Copping



TECHNIQUES

BUSINESS TRENDS

hospital's public relations department, and sometimes we send them to the parents of the child. To get a child started, we explain how the camera works and offer some ideas and inspiration. You can see the light in their eyes when they get what it is they want to shoot! Picture Me Happy's philosophy is to give the children full creative control of their projects. They are the photographers, designers, creators of their images and magazines.

LUKE COPPING: Social media has been the key because one of the universal truths of the Internet is that it's crazy about pictures of adorable dogs. Almost as soon as I or the shelter volunteers share one of these images it goes immediately viral in the local community, garnering hundreds of likes and dozens of shares and retweets. This really helps to get the word out about these amazing dogs and allows people looking to adopt to connect with the images and stories that accompany them. All of these links push viewers to the animal's pet finder pages. I've also built relationships with many notable local social media figures and have even done some dog portraits for them. They are always key connections for sharing these stories and get just as excited as the volunteers and I about each new image.

SB: How do you feel rewarded or remunerated for your donation of photography? What are the benefits to your business?

ISAAC HOWARD: It is hard to describe the feeling you get when people explain to you how your images made them feel: happy or sad or both? Because it is great to know that you have had a small part in doing something good for others. In all of my travels this volunteer work has built up an amazing body of images I could promote for fine art or editorial projects but currently I try to keep the business of business and my charity work separate.

CATHY GREENBLAT: I now have the most extensive set of photos that exist of high-quality dementia care. My work has been reported on in major newspapers and magazines and in presentations by CNN, the BBC, and the *New York Times* website to name a few. I was invited to two of the first three very prestigious G7 Dementia Legacy conferences, in London and Tokyo, to present a 30-minute slide show of good care for



Photos © Cathy Greenblat

delegates from around the world. These sessions were live-streamed around the world in eight languages. I was unable to attend for lack of funds to support my presence, but my work can stand alone. I hope that putting a face on dementia and suggesting we know how to help people with dementia live with dignity will have an impact.

LUKE COPPING: Aside from the huge amount of goodwill, social reach, press, and exposure I get from this project and other events with the shelter, it has also translated into actual income and jobs for me. They range from lucrative private commissions from pet owners to corporate assignments from agencies and veterinary products and sciences firms (even expanding out into working with felines and horses on occasion). Though I started this process for fun to capture images of my own pets, it has become a growing segment of my business over the last year. I've even generated a healthy amount of stock sales from some images of my own puppies.

TIM COURTNEY: Personally, I got into photography because of the "magic," the excitement, fulfillment, and high levels of passion I got through discovering, calculating, envisioning, creating, and seeing the outcome of the image I produced. I have the honor and joy of seeing hospitalized, seriously ill children and teens discover this within themselves. It's not about how good or great the images are, but it is about that camera in your hands and the magic that is taking place within your whole being. We pass it on with this project. The primary benefit to my photography business is the expansion of my network. It also strengthens my credibility with many clients, my community, and is



good for public relations.

SB: What advice do you have for photographers before they start working with nonprofits? What challenges and opportunities can we watch for?

LUKE COPPING: Work with a nonprofit because you genuinely love their cause, not for a secondary or strategic goal. Almost every photographer has been on the wrong end of a call asking them to work for free for a nonprofit they know isn't a smart move or a good fit. Generally it is a sure-fire recipe to generate resentment in the long term between you and the organization. Photographers often put too much stock in the exposure they expect to generate from these types of relationships, and it can really sour them from working with a cause they are 100 percent behind when the opportunity comes along. This is a case where passion really is more important than strategy. Expectation management is also key when building these relationships. It can't be a vendor/employee dialogue if you are going to dedicate yourself to an organization in a meaningful way for free, it has to be more of a partnership/collaboration. I'm so grateful that is what I have with the shelter volunteers. I never feel like an employee or that unreasonable demands are being made by either party. It's a really simple and casual relationship



Photos © Isaac Howard

with the primary goal of finding new homes for overlooked animals.

ISAAC HOWARD: One of the first challenges that I encounter can be easily resolved with a little conversation: it is the issue of expectations. What are they looking for in the photography and what are they going to use it for? The groups I have worked with always try to be too nice and not express their opinions. But just like working for a paying client, there needs to be a good line of communication. Another challenge is travel. Most of the time I am very limited to what I can take. At times this includes my bedding, netting, extra food, clothes, and with the room I have left I pack my camera equipment. All of this has to be carried on the plane and then transported to the site. Then there is the issue of electricity, it is just not available everywhere we travel. It's not like in the old days where a good OM-1 just needed one battery and you could get by without it. Finally, working in different cultures and languages is always a challenge, but I have found that with a smile and my camera I rarely have a problem. I am often asked why I do these jobs and work with people in other countries, why not just stay in the US? There are two simple answers; first until you go, see, smell, and feel other worlds it is hard to understand the "why." Second, I do this type of work in the US. Find a nonprofit that you believe in and do the work out of a giving heart and not what you will get in return.

TIM COURTNEY: Please research the nonprofit at their website, to see if you might be a good fit and then present yourself intelligently when speaking with them. As a photographer, I highly suggest asking "How can I be of help to you?" vs. "Tell me about your project and how you want us to comply with it." This comes down to an honest question to ask yourself, what are your motives for contacting this nonprofit? If your agenda is how this nonprofit might benefit you with a specific project, they will probably smell you coming a mile away! But once you have created some



work and a good relationship together, your project idea might be welcomed (as long as it fits into their mission statement and guidelines). Keep in mind, especially for a big project, you can request that the nonprofit consider your photography as "Services In-Kind." You can then write off the donation of works or time from your taxes. (Author's Note: Check with your personal tax accountant.)

SB: What recommendations would you make to a photographer looking to make a difference, perhaps even be a photography activist, and still pay the rent?

CATHY GREENBLAT: Most people who do this will have to have a source of revenue that is sufficient before they can undertake this kind of work. It is enormously gratifying, and the feelings of doing something to help make the world a better place are wonderful. But it's easy to get carried away. You have to put limits on the amount of time you can spend in such an enterprise.

LUKE COPPING: I think that you need to identify where in your life and business

that volunteer service fits and if you are in a place where you can dedicate your time to it in a healthy way. Too many look at it as a road to success, thinking along the lines of "working with this organization could get me some great press or net me some jobs" which is the wrong mindset and approach. I think it's much better to think "I am at a comfortable place in my business that I can start to give back and dedicate some time to working with nonprofits of my choosing in an authentic and dedicated way." It has to be about your passion for the cause. That's not to say that emerging photographers or those just starting to build a business shouldn't volunteer but it should be on your terms. You should set rules and boundaries for yourself and the organizations rather than just clutching at straws and working with any movement or organization that asks you. That's how people get stretched too thin, stressed out, and soured on the idea of blending volunteer service and photography business. ■

WEB RESOURCES PHOTOGRAPHERS

- **Luke Copping:** notabully.org, www.facebook.com/FriendsofCBAS, www.lukecopping.com
- **Tim Courtney:** www.picturemehappy.org, www.timcourtneyphotography.com
- **Cathy Greenblat:** www.lovelossandlaughter.com, www.cathygreenblat.com
- **Isaac Howard:** www.globaltrainingnetwork.org, www.hopeinhaiti.org

OTHER NOTEWORTHY ORGANIZATIONS

- **Be The Change Inc.:** www.bethechangeinc.org
- **GlobalGiving:** www.globalgiving.org
- **Lens on Life:** <http://lensonlife.org>
- **Photographers Without Borders:** www.photographerswithoutborders.org
- **Project Exposure:** <http://projectexposure.org>
- **Volunteer Guide:** www.volunteerguide.org



A moored boat was rocking from the passing of another boat, and Jim Graham photographed the aftermath from the Rockport, Maine, dock. "I wanted the photograph to be a metaphor for someone being part of your life, and then not being there, and the effect the person had on your life by moving through it."



Graham says he got lucky with this image, taken in Nantucket, Massachusetts. "Not with the fog or the stillness of the water, but by getting to the boat before they painted all the identification markings on it." The island is a comfortable place for him, and he knows the kinds of scenes early morning and fog can bring. "When I go to Nantucket, I'm out the door with my camera at five in the morning," he says. "Possibility creates opportunity."

The Eye Has It

JIM GRAHAM'S ELEGANT LANDSCAPES EXAMINE THE BEAUTY OF ISOLATION

BY BARRY TANENBAUM

WE ASSUMED THE first thing Jim Graham does in order to create his elegant landscape images is decide how to isolate his subjects from distracting backgrounds to achieve the always-desired single subject, clearly defined.

We were wrong. The first thing he does is ask himself: What do I see? Then he asks: How do I use the camera to communicate the feeling I have about what I see?

The answers, coupled with his skill at the striking use of color, form, and light within the frame, often result in symbolic representations of personal stories and feelings far beyond the literal subject in the frame.

Simply put, Jim Graham is out to say a lot more than "Isn't this a pretty picture?"

SPEAKING FOR THEMSELVES

"Getting to the story in an image comes from my newspaper background," Graham says. "I had a job to do: get across an idea or a feeling that would draw viewers in. I had to be a visual communicator. I was not in the business of taking photographs that had to be explained."

Graham tells of a class he took with Bob Gilka, the legendary former director of photography at *National Geographic* magazine. "Gilka said that if you've got to explain a photo, you might want to go back and reshoot. You can translate that idea from my newspaper work to the feelings I try to portray in my landscape work today."

His class with Bob Gilka is indicative

of the way Jim Graham thinks about photography, and how he strives to keep his images far from the merely pretty. "I've had people who see my work ask me, 'Why do you take photo workshops all the time? You should be teaching them.' Okay, I'm flattered by that, sure, but I still believe I can always learn."

Graham doesn't take workshops to find out if he needs plus-one exposure compensation for a particular situation. He doesn't necessarily need to know how the instructors make pictures; he wants to know how they think about making pictures. "I want to know Bob Gilka's ideas about storytelling; and John Paul Caponigro's ideas about art; and Greg Heisler's about light; and Eddie Soloway's about seeing color."



"This valley is in Coatesville, Pennsylvania, on Brandywine Conservancy land. I've been going there for over 25 years. What I saw was a photo about isolation and separation, and I used a 70-200mm lens at 200mm to compress the image. I composed it to stack three layers: the tree, the tree line behind it, and the hills in the distance."

Photos © Jim Graham



"This was near Ellsworth, Maine. The sun had just started to come up when I saw this scene. I was on my way to somewhere else, but I gave myself 15 minutes and got out of the car. I was lying on my stomach, playing with framing the grass and the streaks as the water moved and reflected the sun."



On Nantucket Island, near Gibbs Pond. "A frost the day before had turned a lot of the ground foliage a bright red, and I had the advantage of soft, late afternoon light. I boosted the saturation a bit, trying to channel my inner Eliot Porter. Then I set off to explore the dark unknown off to the right."



Graham took this photo at White Sands National Monument, New Mexico, at about 6:30 in the evening, and benefited from light from the setting sun and the rising moon. "The sunlight was also reflecting off the surrounding dunes; there was a lot of light kicking around. This is all about line and texture, and my arc is in there, too."



A portion of the Falljökull glacier in Iceland, late in the day. "Sometimes if I see the color blue, I may not only bracket my exposures, I may also choose a specific color temperature as well, but here I simply set the white balance to tungsten to get an even richer blue."



The Aurora Borealis and Bjarnarhafnarfjall Mountain, near Grundarfjörður, Iceland. "This is what you get when you walk out onto a smelly beach at midnight and set your tripod among the fish parts the fishermen leave behind," Graham says. "It was a 30-second exposure and I ran the ISO up to 4000."



"I took this image on a workshop in Spruce Head, Maine, right after a breakup," Graham says, "and only later realized that it represented smoothness and calmness on one side, tumult on the other, and a line of demarcation in between." A pivotal image, it led to Graham's evaluative question: What do I see?

LINE OF SIGHT

And because everything we do isn't a conscious decision, a workshop once revealed something about Graham's own expression of style and technique. "Caponigro told me something I wasn't aware of—that there was a line I worked with all the time. I mean a literal line, an arc of light, shape, object, or reflection. It's almost always there, and it leads a viewer's eye into the scene or directs it within the frame. The line is movement, and I think I instinctively, and unconsciously, search for and include it."

A viewer following that arc stays in the image, notices other elements, and comes back around on the arc. "And if you can keep a viewer looking at an image for more than five seconds," Graham says, "keep him thinking about

it, maybe asking a question or coming up with a story about the image, you win."

When Graham saw the image selections we'd made for this story, he said, "Thematically, most of the photographs you've chosen are all talking about isolation. That was the answer to the first question: What do I see? Once I knew that, I knew what to include, what to exclude, and how to use everything else—the camera, the lens, the framing, the composition—to speak for me." ■

You can see more examples of Jim Graham's fine art landscape photography, as well as his corporate and wedding images, at his website: www.jimgrahamphotography.com.

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50/2.8 Mac (55e).....	598.00	85/2.8 (55e).....	298.00
85/1.4 Carl Zeiss (72e).....			1,698.00
100/2.8 Macro (55e).....			798.00
135/1.8 Carl Zeiss (77e).....			1,798.00
135/2.8 STF (72e).....			1,398.00
300/2.8 G APO II (42eR).....			7,498.99
500/4.0 G (42eR).....			12,998.00
11-18/4.5-5.6 DT (77e).....			798.00
16-35/2.8 ZA SSM (77e).....			1,998.00
16-50/2.8 DT (40.5e).....			798.00
16-80/3.5-4.5 DT (62e).....			998.00
16-105/3.5-5.6 DT (62e).....			698.00
18-55/3.5-5.6 DT SAM II (55e).....			218.00
18-135/3.5-6.3 (62e).....			498.00
18-250/3.5-6.3 DT (62e).....			648.00
24-70/2.8 Carl Zeiss (77e).....			1,998.00
28-75/2.8 (67e).....			898.00
55-200/4.0-5.6 DT (55e).....			198.00
55-300/4.5-5.6 DT (62e).....			298.00
70-200/2.8 G SSM II (77e).....			2,998.00
70-300/4.5-5.6 G (62e).....			998.00
70-400/4.5-6.6 G2.....			2,198.00
1.4x Teleconverter.....	548.00	2x Teleconverter.....	548.00

Panasonic Lumix DMC-GM1 Mirrorless System Camera

- Venus Engine Image Processor • Micro 4/3 System
- 3.0" Touchscreen LCD • SDHC/SDXC Card Slot
- Full HD 1080i AVCHD Video at 60 fps • ISO 25600
- 5 fps Continuous Shooting • Built-In Wireless
- Highly Compact Magnesium Alloy Body
- Available in Black or Orange



with 12-32mm Lens #PADMCMG1*

Panasonic Lumix DMC-GX7 Mirrorless System Camera

- Micro 4/3 System • 3.0" Tilting LCD Touchscreen
- SDHC/SDXC Card Slot • 90° Tilting EVF
- Full HD 1080p AVCHD Video at 60 fps
- Focus Peaking and Magnification Windows
- Built-In Wireless and NFC Connectivity
- Available in Black or Silver



with 14-42mm II Lens #PADMCGX7K*

Panasonic Lumix DMC-GH4 4K Mirrorless System Camera

- DCI 4K 4096x2160 at 24p • Full HD up to 60p
- UHD 4K 3840x2160 at 30p/24p • 3.0" LCD
- Live View Finder • High-Speed 49-Point AF
- 4:2:2 8-Bit or 10-Bit HDMI Output
- Support for 59.94p, 23.98p, 50p, & 24p
- Magnesium Alloy, Weather-Sealed Body



Body Only #PADMCGH4*

PENTAX K-3 DSLR Camera

- PRIME III Image Processor • 3.2" LCD
- Pentax K Lens Mount • Dual SD Card Slots
- In-Camera Shake Reduction Stabilization
- Full HD 1080i/p Video Recording
- Continuous Shooting up to 8.3 fps
- Weather-Sealed Magnesium Alloy Body



Body Only #PEK3

SONY Alpha A6000 Mirrorless System Camera

- 3.0" Tilting LCD • Uses Sony E-mount Lenses
- SDHC, SDXC, MS Pro Duo, MS PRO HG Duo Card Slot • Up to 11 fps Shooting • ISO 25600
- Full HD 1080i/p AVCHD Video at 24/60 fps
- Built-In Wi-Fi Connectivity with NFC
- Available in Black or Silver



Kit with 16-50mm OSS Lens #SOA6000*

SONY Alpha A7 Mirrorless System Camera

- Full Frame Exmor CMOS Sensor • 3.0" Tiltable LCD
- SDHC, SDXC, MS Pro Duo, MS PRO HG Duo Card Slot • Uses Sony E-mount Lenses
- Built-In Wi-Fi and NFC • Direct Access Interface
- Full 1080/60p with Uncompressed Output



Body Only #SOA7B

Kit with 28-70mm Lens #SOA7KB

SONY Alpha SLT-A58 DSLR Camera

- 2.7" Tilting LCD • Uses Sony Alpha mount Lenses
- SDHC, SDXC, MS Pro Duo, MS PRO HG Duo Card Slot • Full HD 1080i/p Video at 60 or 24fps
- 5fps Full Resolution Continuous Shooting
- SteadyShot INSIDE Image Stabilization
- ISO 100-16000 with Noise Reduction



DT 18-55mm SAM II Lens #SOLTA58K

SONY a77 II DSLR Camera

- 3.0" 3-Way Tilting LCD • 12fps Shooting
- Uses Sony Alpha mount Lenses
- Full HD 1080p Video Recording at 60 fps
- SDHC, SDXC, MS Pro Duo, MS PRO HG Duo, XC-HG Duo Card Slot • ISO 25600
- Built-In Wi-Fi Connectivity with NFC



Body Only #SOA772

LENSES AND FLASHES for DSLR & Mirrorless Cameras

TAMRON

Six-Year Warranty

Di for both digital and film SLR cameras
Di-II for Digital SLRs Only Di-III for mirror-less cameras Only Rebates Expire 2/28/15

	C = Canon	N = Nikon	P = Pentax	SA = Sony Alpha	SE = Sony E Mount
** Price After Rebate	SKU #	Avail. for	Rebate	Price	
Di-II 60mm f/2.0 LD IF Macro (55ø)	#TA602DI*	C, N, SA	—	524.00	
Di 90mm f/2.8 Macro (55ø)	#TA9028M*	C, N, P, SA	—	499.00	
Di 90mm f/2.8 SP Macro VC USD (58ø)	#TA9028VC*	C, N	\$50	699.00**	
Di 180mm f/3.5 LD IF Macro (72ø)	#TA18035*	C, N, SA	—	739.00	
Di-II 10-24/3.5-4.5 (77ø)	#TA102435*	C, N, P, SA	—	499.00	
Di-II 16-300/3.5-6.3 VC PZD (67ø)	#TA1630035DI*	C, N, SA	\$30	599.00**	
Di-II 17-50/2.8 XR LD IF Asph. (67ø)	#TA175028*	C, N, P, SA	—	499.00	
Di-II 17-50/2.8 XR VC LD IF Asph. (67ø)	#TA175028*Q	C, N	—	649.00	
Di-II 18-200/3.5-6.3 (62ø)	#TA1820035*	C, N, P, SA	—	199.00	
Di-III 18-200/3.5-6.3 VC (62ø)	#TA1820035S*	SE Black or Silver	—	739.00	
Di-II 18-270/3.5-6.3 VC PZD (62ø)	#TA18270*	C, N, SA	\$50	399.00**	
Di 24-70/2.8 VC USD (82ø)	#TA247028*	C, N, SA	\$100	1,199.00**	
Di 28-75/2.8 XR (67ø)	#TA287528*	C, N, P, SA	—	499.00	
Di 28-300/3.5-6.3 XR LD (62ø)	#TA2830035XD*	C, P, SA	—	419.00	
Di 28-300/3.5-6.3 VC PZD (67ø)	#TA2830035DI*	C, N, SA	—	849.00	
Di 70-200/2.8 LD IF Macro (77ø)	#TA7020028*	C, N, P, SA	—	769.00	
Di 70-200/2.8 SP VC USD (77ø)	#TA7020028*	C, N, SA	\$100	1,399.00**	
Di 70-300/4.5-6.3 LD Macro (62ø)	#TA70300M*	C, N, P, SA	—	199.00	
Di 70-300/4.5-6.3 VC USD (62ø)	#TA70300*	C, N, SA	\$50	399.00**	
Di 150-600/5.6-6.3 VC USD (95ø)	#TA150600S*	C, N, SA	—	1069.00	
1.4x SP AF Pro Teleconverter	#TA14XP*	C, N	—	224.00	
2x SP AF Pro Teleconverter	#TA2XP*	C, N	—	254.00	

ZEISS Touit Mirrorless Lenses

These fully-compatible lenses with autofocus expand the capabilities of both the Sony NEX and Fujifilm X camera systems with outstanding optical quality.

	Fujifilm X	Sony NEX	Price
12mm f/2.8 (67ø)	#ZET2812X	#ZET2812E	999.00
32mm f/1.8 (52ø)	#ZET1832X	#ZET1832E	720.00
50mm f/2.8M (52ø)	#ZET5028MX	#ZET5028ME	999.00

Tokina

DX – for Digital SLRs Only FX – Designed for full frame DSLRs

	Canon EOS	Nikon AF	Price
FX 100mm f/2.8 Pro D Macro (52ø)	#T010028PCAF	#T010028PNAF	379.00
DX 10-17mm f/3.5-4.5 ATX Fisheye	#T0101735CAF	#T0101735NAF	549.00
DX 11-16mm f/2.8 Pro (77ø)	—	#T0111628PDXN	426.00
DX 11-16mm f/2.8 Pro II (77ø)	#T0111628PCII	#T0111628PNII	479.00
DX 12-28mm f/4.0 Pro (77ø)	#T012284DXC	#T012284DXN	449.00
FX 16-28mm f/2.8 Pro	#T01628FXC	#T01628FXN	629.00
FX 17-35mm f/4 Pro (82ø)	#T01735F4FXC	#T01735F4FXN	449.00

SIGMA

** Price After Rebate Rebates Expire 2/28/15

DC – for Digital SLRs Only DG – Optimized for Digital SLRs DN – Designed for Mirrorless Cameras.

H – HSM Model with Canon, Nikon, Sigma	Mount	SKU #	Rebate	Price
DC 4.5/2.8 EX Circular Fisheye HSM R	C, N, P, SI, SA	#SI4528EX*	\$100	799.00**
DG 8/3.5 EX Circular Fisheye R	C, N, SI, SA	#SI835*	—	899.00
DC 10/2.8 EX Fisheye HSM R	C, N, SA	#SI1028EXDC*	—	649.00
DG 15/2.8 EX Diagonal Fisheye R	C, N, P, SA	#SI1528DG*	—	609.00
DN 19/2.8 (46ø) Black or Silver	MFT, SE	#SI1928DN*	—	199.00
DG 20/1.8 EX DF Rf Aspherical (82ø)	C, N, SA	#SI2018*	—	629.00
DG 24/1.8 EX DF Asph. Macro (77ø)	C	#SI2418MCAF	—	549.00
DG 28/1.8 EX DF Asph. Macro (77ø)	C	#SI2818MCAF	—	449.00
DN 30/2.8 (46ø) Black or Silver	MFT, SE	#SI3028DN*	—	199.00
DC 30/1.8 HSM (62ø)	C, N, P, SI, SA	#SI3018DCHSM*	—	499.00
DG 35/1.4 HSM (67ø)	C, N, P, SI, SA	#SI3514*	—	899.00
DG 50/1.4 EX HSM (77ø) H	C, N, SA	#SI5014*	\$100	399.00**
DG 50/1.4 HSM (77ø) R	C, N, SI, SA	#SI5014R*	—	949.00
DG 50/2.8 EX Macro (55ø)	C, N	#SI5028MDG*	—	369.00
DN 60/2.8 (46ø) Black or Silver	MFT, SE	#SI6028DN*	\$30	209.00**
DG 70/2.8 EX Macro (62ø)	N, P	#SI7028MDG*	—	499.00
DG 85/1.4 EX HSM (77ø)	C, N, P, SI, SA	#SI8514*	—	969.00
DG 105/2.8 EX Macro OS HSM (62ø)	C, N, SI, SA	#SI10528MDG*	\$300	669.00**
DG 150/2.8 EX APO Macro OS HSM (72ø)	C, N, SI, SA	#SI15028AMO*	—	1,099.00
DG 180/2.8 EX APO Macro OS HSM (86ø)	C, N, SI, SA	#SI18028AMEO*	—	1,699.00
DG 300/2.8 APO EX HSM (46ø) Rear	C, N, P, SI, SA	#SI30028DG*	—	3,399.00
DG 500/4.5 APO EX HSM (46ø) Rear	C, N, P, SI, SA	#SI50045DG*	—	4,999.00
DC 8/16/4.5-5.6 HSM	C, N, S	#SI8164556*	—	699.00
DC 10-20/4.5-5.6 EX HSM (77ø)	C, N, P, SI, SA	#SI102045D*	\$80	399.00**

C = Canon MFT = Micro 4/3 N = Nikon O = Olympus P = Pentax SI = Sigma SA = Sony Alpha SE = Sony E

R – Rear Slip-in Gelatin Filter Slot	Mount	SKU #	Rebate	Price
DC 10-20/3.5 EX HSM (82ø)	C, N, P, SI, SA	#SI102035*	—	649.00
DG 12-24/4.5-5.6 EX Asph. HSM II	C, N, SI, SA	#SI122445*	—	949.00
DC 17-50/2.8 EX OS HSM (77ø)	C, N, P, SI	#SI175028*	\$150	519.00**
DC 17-70/2.8-4.0 OS Mac HSM HSM TC (72ø)	C, N, P, SI, SA	#SI177028*	—	499.00
DC 18-35/1.8 HSM (72ø)	C, N, P, SI, SA	#SI183518DC*	—	799.00
DC 18-200/3.5-6.3 OS II HSM (72ø)	N, SI, SA	#SI1820035*	—	499.00
DC 18-200/3.5-6.3 OS Macro HSM (62ø)	C, N, P, SI, SA	#SI1820035D*	—	399.00
DC 18-250/3.5-6.3 OS Macro HSM (62ø)	C, N, P, SI, SA	#SI1825035M*	\$200	349.00**
DC 18-300/3.5-6.3 OS Macro HSM (62ø)	C, N, P, SI, SA	#SI1830035*	—	579.00
DG 24-70/2.8 EX IF HSM (82ø)	C, N, SI, SA	#SI247028*	—	899.00
DG 24-105/4.0 OS HSM (82ø)	C, N, SI, SA	#SI24105*	—	899.00
DG 50-500/4.5-6.3 APO OS HSM (95ø)	C, N, P, SI, SA	#SI505004563*	\$150	1,509.00**
DG 70-200/2.8 EX APO OS HSM (77ø)	C, N, P, SI, SA	#SI7020028*	\$200	1,199.00**
DG 70-300/4.5-6.6 Macro (58ø)	C, N, P, SI, SA	#SI703004*	—	169.00
DG 70-300/4.5-6.6 APO Macro (58ø)	C, N, P, SI, SA	#SI703004DG*	—	179.00
DG 120-300/2.8 OS HSM (105ø)	C, N, S	#SI120300*	—	3,599.00
DG 120-400/4.5-5.6 APO OS HSM (77øR)	C, P, SI	#SI120400*	—	899.00
DG 150-500/5-6.3 APO OS HSM (86ø)	C, N, P, SI, SA	#SI150500*	\$200	869.00**
DG 1.4x EX APO Tele-Converter	C, N, S	#SI14XDG*	—	249.00
DG 2x EX APO Tele-Converter	C, N, S	#SI2XDG*	—	299.00

SIGMA FLASHES

	Price
DG EF-610 ST	C, N, P, SI, SA #SIEF610ST* — 165.00
DG EF-610 Super Flash	C, N, P, SI, SA #SIEF610* — 255.00
DG EM-140 TTL Ringlight	C, N, P, SI, SA #SIEM140DG* — 379.00



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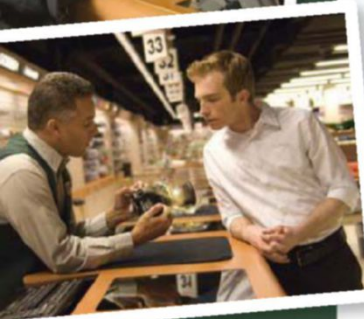


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Canon Digital Rebel T5i DSLR

- 3.0" Vari-Angle Touchscreen LCD
- Uses Canon EF Lenses (1.6x factor)
- SD/SDHC/SDXC Card Slot
- STM Lens Support for Quiet AF in Movies
- Full HD 1080 Video with Continuous AF
- ISO 100-12800, Expandable to 25600



	Price	Rebate	Final Cost
Rebates Expire 2-28-15			
Kit with 18-55mm IS STM #CAEDRT5IK	849.99	\$100	749.99
T5i Kit with 18-55mm IS II #CAEDRT5K	549.99	\$100	449.99
T5i Kit with 18-55mm IS #CAEDRT3IK			

Canon EOS-70D DSLR

- Dual Pixel CMOS AF with Live View
- DIGIC 5+ Image Processor
- SD/SDHC/SDXC Card Slot
- Uses Canon EF & EF-S Lenses
- 3.0" Vari-Angle Touchscreen
- 7 fps Continuous Shooting
- Built-In Wireless Connectivity
- Full HD 1080p Video

20 Mega Pixels



	Price	Rebate	Final Cost
Rebates Expire 2-28-15			
Body Only #CAE70D	1,199.00	\$100	1,099.00
Kit with 18-55mm STM #CAE70D1855	1,349.00	\$100	1,249.00
EOS 60D Body Only #CAE60D			
EOS 60D Kit with 18-135mm IS #CAE60D18135			

Canon EOS-7D Mark II DSLR

- 3" Clear View II LCD • Native ISO 16000
- Dual Pixel CMOS AF with Live View
- Dual CF and SDHC/XC Card Slots
- Continuous 10 fps Shooting
- Built-In GPS Receiver & Digital Compass
- Full HD 1080p/60 Video & Movie Servo AF

20 Mega Pixels



	Price	Rebate	Final Cost
Body Only #CAE7D2	1,799.00		
EOS 7D Body Only #CAE7D			
EOS 7D Kit with 18-135mm IS #CAE7D18135			
EOS 7D Kit with 28-135mm IS #CAE7D28135			

Canon EOS-6D DSLR

- Full-Frame CMOS Sensor • 3.0" LCD
- DIGIC 5+ Image Processor
- Uses Canon EF Lenses
- SD/SDHC/SDXC Card Slot
- Built-In Wi-Fi and GPS Connectivity
- Full HD 1080p with Manual Controls
- Extended ISO Range of 50-102400
- Up to 4.5 Full Resolution FPS
- Built-In HDR & Multiple Exposure Modes



	Price	Rebate	Final Cost
Rebates (Mail-in) Expire 2-28-15			
Body Only #CAE6D	1,899.00	\$300	1,599.00
Kit with 24-105mm f/4 L #CAE6D24105	2,499.00	\$300	2,199.00

Canon EOS-5D Mark III DSLR

- 3.2" Clear View High Resolution LCD
- DIGIC 5+ Image Processor
- 61-Point High Density AF
- Uses Canon EF Lenses
- Dual CF, SD Card Slots
- Full HD 1080/30p & 720/60p Formats
- Extended ISO Range (50-102400)
- Built-In HDR & Multiple Exposure Modes



	Price	Rebate	Final Cost
Rebates (Mail-in) Expire 2-28-15			
Body Only #CAE5D3	3,399.00	\$300	3,099.00
Kit with 24-105mm L IS #CAE5D324105	3,999.00	\$300	3,699.00

Canon EOS-1Dx DSLR

- Dual DIGIC 5+ Image Processors
- Magnesium Alloy Body
- Eye-Level Pentaprism Viewfinder
- 3.2" LCD Monitor
- Uses Canon EF Lenses
- Dual CF card slots
- 1920 x 1080 HD Video Capture
- Live View Still and Video Recording
- 61-Point High Density Auto Focus



Body Only #CAE1DX*	5,999.00
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Canon SLR Lenses and Flashes

Rebates (Mail-in) Expire 2-28-15 — Call for Current Rebates & Promotions

EOS Flash System	MAP	Rebate	Final
270EX II	169.99		
320EX			
430EX II	299.99		
600EX-RT	549.99		
MR-14EX II Ringlight	549.99		
MT-24EX Twin Flash	829.99		



EF-S Digital Lenses	MAP	Mail-in Rebate	Final
24/2.8 STM (52ø)	149.99		
60/2.8 USM Macro (52ø)	469.99		
10-18/4.5-5.6 IS STM (67ø)	299.00		
10-22/3.5-4.5 USM (77ø)	649.99		
15-85/3.5-5.6 IS USM (72ø)	799.99		
17-55/2.8 IS USM (67ø)	879.99		
17-85/4-5.6 IS USM (67ø)	CALL		
18-55/3.5-5.6 IS (58ø) II	199.99		
18-135/3.5-5.6 IS (67ø)	499.99		
18-200/3.5-5.6 IS (72ø)	699.99		
55-250/4-5.6 IS USM II (58ø)	249.99		
55-250/4-5.6 IS STM II (58ø)	299.99		

Not compatible with full frame cameras

EF Lenses	MAP	Mail-in Rebate	Final
20/2.8 USM (72ø)	539.99		
24/2.8 IS USM (58ø)	599.99		
28/1.8 USM (58ø)	509.99		
28/2.8 IS USM (58ø)	549.99		
35/2 IS USM (67ø)	599.99		
40/2.8 STM Pancake (52ø)	199.99		
50/1.8 II (52ø)	125.99		
50/2.5 Macro (52ø)	299.99		
50/1.4 USM (58ø)	399.99		
MP-E 65/2.8 1x-5x Macro (58ø)	1,049.00		
85/1.8 USM (58ø)	419.99		
100/2 USM (58ø)	499.99		
100/2.8 USM Macro (58ø)	599.99		
400/4.0 DO IS II USM (52ø)	6,899.00		
24-105/3.5-5.6 IS STM (77ø)	599.00		
28-135/3.5-5.6 IS USM (72ø)	CALL		
70-300/4-5.6 IS USM (58ø)	649.99	\$250	399.99**
70-300/4.5-5.6 DO IS USM (58ø)	1,399.00		
75-300/4.0-5.6 III (58ø)	199.99		
75-300/4.0-5.6 III USM (58ø)	234.99		



TSE MF Lenses	MAP	Rebate	Final
17/4.0 L	2,249.00		
24/3.5 L II	1,999.00		
45/2.8	1,399.00		
90/2.8	1,399.00		

EF "L" Lenses	MAP	Mail-in Rebate	Final
14/2.8 USM II	2,249.00		
24/1.4 II (77ø)	1,649.00		
35/1.4 USM (72ø)	1,479.00		
50/1.2 USM (72ø)	1,549.00		
85/1.2 USM II (72ø)	2,099.00		
100/2.8 IS USM Macro (67ø)	949.99		
135/2.0 USM (72ø)	1,049.00		
180/3.5 USM Macro (72ø)	1,499.00		
200/2.8 USM II (72ø)	779.99		
200/2.0 IS USM (52ø)	5,999.00		
300/4.0 IS USM (77ø)	1,449.00		
300/2.8 IS USM II (52ø rear)	6,599.00		
400/5.6 USM (77ø)	1,339.00		
400/2.8 IS II (52ø rear)	10,499.00		
500/4 IS USM II (52ø rear)	9,499.00		
600/4.0 IS II (52ø rear)	11,999.00		
8-15/4.0 Fish-eye USM	1,349.00		
16-35/4 IS USM (77ø)	1,199.00	\$50	1,149.00
16-35/2.8 USM II (82ø)	1,699.00	\$100	1,599.00
17-40/4.0 USM (77ø)	839.99	\$100	739.99
24-70/4.0 IS USM (77ø)	999.99	\$100	899.99
24-70/2.8 II USM (82ø)	2,099.00	\$100	1,999.00
24-105/4 IS USM (77ø)	1,149.00		
28-300/3.5-5.6 IS USM (77ø)	2,549.00		
70-200/4.0 USM (67ø)	709.99	\$50	659.99
70-200/4.0 IS USM (77ø)	1,299.00	\$100	1,199.00
70-200/2.8 USM (77ø)	1,449.00	\$100	1,349.00
70-200/2.8 IS II USM (77ø)	2,299.00	\$100	2,199.00
70-300/4.0-5.6 IS USM (67ø)	1,449.00		
100-400/4.5-5.6 IS USM (77ø)	1,699.00	\$200	1,499.00

EF Teleconverters	MAP	Rebate	Final
1.4x III	449.99		
2x III	449.99		

** with purchase of EOS-6D, 7D, 7D mkII, 70D, or 60D

Nikon D3300 DSLR

Rebates Expire 2-28-15

- EXPEED 4 Image Processor
- Full HD 1080p Video Recording
- 3.0" LCD • 5 fps Shooting
- Uses Nikon AF Lenses (1.5x factor)
- SD/SDHC/SDXC Card Slot
- Expandable ISO 25600
- Easy Panorama Mode and Guide Mode
- Nikon Inc. limited warranty included



D3300 is available in Black, Grey or Red

	Price	Rebate	Final Cost
Kit with 18-55mm VR II #NID33001855*	646.95	\$150	496.95
D3200 Kit Black w/18-55mm VR #NID32001855*	529.95	\$80	449.95

Nikon D5500 DSLR

- EXPEED 4 Image Processor
- Full HD 1080p Video at 60 fps
- 3.2" Vari-Angle Touchscreen
- Uses Nikon AF Lenses (1.5x factor)
- SD/SDHC/SDXC Card Slot
- Built-In Wi-Fi • ISO 100-25600
- Nikon Inc. limited warranty included



Rebates Expire 2-28-15

D5500 18-55 Kit is available in Black or Red

	Price	Rebate	Final Cost
Kit with 18-55mm VR II #NID55001855*	999.95	—	—
D5300 Kit w/18-55mm VR II #NID53001855*	896.95	\$100	796.95
D5200 Kit with 18-55mm VR #NID52001855*	799.95	\$150	649.95

Nikon D7100 DSLR

- Magnesium Alloy Body
- Moisture Resistant
- EXPEED 3 Image Processor
- 1080p Full HD Video Capture
- Accepts Nikon AF Lenses (1.5x factor) • 3.2" LCD
- Dual SD/SDHC/SDXC Card Slots
- Built-In Flash with Commander Function
- Nikon Inc. limited warranty included



Rebates Expire 2-28-15

	Price	Rebate	Final Cost
Body Only #NID7100.....	1,199.95	\$200	999.95
Kit with 18-140mm VR DX #NID710018140.....	1,696.95	\$400	1,296.95

Nikon D750 DSLR

- FX-Format (Full-Frame) CMOS Sensor
- Uses Nikon AF Lenses • 3.2" Tilting LCD
- EXPEED 4 Image Processor
- SD/SDHC/SDXC Card Slot
- Built-In Wi-Fi Connectivity
- Full HD 1080p Video Recording at 60 fps
- Nikon Inc. limited warranty included



Rebates Expire 2-28-15

	Price	Rebate	Final Cost
Body Only #NID750.....	2,296.95	—	—
Kit with 24-120mm VR #NID75024120.....	3,596.95	\$600	2,996.95
D610 Body Only #NID610.....	1,996.95	\$500	1,496.95
D610 Kit with 24-85mm VRT #NID6102485.....	2,596.95	\$600	1,996.95

Nikon D810 DSLR

- FX-Format CMOS Sensor
- EXPEED 4 Image Processor
- Optical Low-Pass Filter • 3.2" LCD
- CF & SD Dual Card Slots
- Nikon F Mount Lens Mount
- Full HD 1080p Video at 60/30/24 fps
- External Mic and Headphone Inputs
- Continuous Shooting to 5 fps in FX Mode
- Nikon Inc. limited warranty included



Rebates Expire 2-28-15

	Price	Rebate	Final Cost
Body Only #NID810.....	3,296.95	\$300	2,996.95
Kit with 24-120mm VR #NID81024120.....	4,599.95	\$900	3,699.95

Nikon D4s DSLR

- FX-format (full-frame) CMOS Sensor
- 14-Bit RAW Files & 12-Bit RAW S Format • 3.2" LCD
- Full HD 1080p Video at 60 fps
- EXPEED 4 Image Processor
- Compatible with Most Nikkor Optics
- 11 fps Shooting for 200 Shots with AE/AF • ISO 50-409600
- CF Type 1 & XQD Compatible
- 1000 Base-T Gigabit Wired LAN Support
- Nikon Inc. limited warranty included



Body Only #NID4S.....

6,496.95

16 Mega Pixels

Nikon SLR Lenses and Flashes

Rebates Expire 2-28-15 — Call for Current Rebates and Promotions

Nikon Instant Savings on Lenses with purchase of any Nikon DSLR

AF Flashes	Price	Rebate	Final
SB-300.....	146.95	—	—
SB-500.....	246.95	—	—
SB-700.....	326.95	—	—
SB-910.....	546.95	—	—
R1 Wireless Twin Flash.....	—	—	—
R1C1 Wireless Twin Flash System.....	—	—	—



DX ED-IF Lenses for Digital Only	Price	Rebate	Final
10.5/2.8 Fish-Eye.....	196.95	\$20	176.95*
35/1.8 G AF-S (52ø).....	526.95	\$30	496.95*
40/2.8 G AF-S Micro (52ø).....	526.95	\$100	426.95
85/3.5 G ED VR Micro.....	899.95	\$100	799.95*
10-24/3.5-4.5 G AF-S (77ø).....	899.95	\$100	799.95*
12-24/4 G AF-S (77ø).....	699.95	\$100	599.95
16-85/3.5-5.6 G AF-S VR (67ø).....	596.95	\$100	496.95*
17-55/2.8 G AF-S (77ø).....	596.95	\$100	496.95*
18-55/3.5-5.6 G AF-S II (52ø).....	196.95	—	—
18-55/3.5-5.6 G AF-S VR (52ø).....	246.95	—	—
18-55/3.5-5.6 G AF-S VR II (52ø).....	396.95	—	—
18-105/3.5-5.6 G AF-S VR.....	496.95	\$200	296.95
18-200/3.5-5.6 G AF-S VR II.....	596.95	\$100	496.95*
18-300/3.5-5.6 G AF-S ED VR (77ø).....	896.95	\$100	796.95
18-300/3.5-6.3 G AF-S ED VR (67ø).....	896.95	\$100	796.95
55-200/4.5-5.6 G AF-S (52ø).....	346.95	\$200	146.95
55-200/4.5-5.6 G AF-S VR II.....	396.95	\$150	246.95



D-Type AF Lenses	Price	Rebate	Final
50/1.8 D (52ø).....	—	—	—
50/1.8 G AF-S (58ø).....	216.95	\$20	196.95*
50/1.4 D (52ø).....	—	—	—
50/1.4 G AF-S (58ø).....	484.95	\$85	399.95*
58/1.4 G AF-S (72ø).....	1,696.95	\$200	1,496.95
60/2.8 D Micro (62ø) (1:1).....	599.95	\$100	499.95
60/2.8 G AF-S ED Micro (62ø).....	496.95	\$50	446.95*
85/1.8 G AF-S (67ø).....	1,699.95	\$200	1,499.95*
85/1.4 D IF (77ø).....	—	—	—
85/1.4 G AF-S (77ø).....	984.95	\$185	799.95*
85/2.8 PC-E Micro (77ø).....	—	—	—
105/2.8 G AF-S ED-IF VR Micro (62ø).....	984.95	\$185	799.95*
105/2.0 DC D with Hood (72ø).....	—	—	—
180/2.8 D ED-IF (72ø).....	—	—	—
200/4 D ED-IF Micro with Case (62ø).....	—	—	—
200/2 G AF-S ED-IF VR II (52ø).....	—	—	—
300/4.0 D AF-S ED-IF (77ø).....	—	—	—
300/2.8 G AF-S VR (52ø-R).....	—	—	—
500/4.0 G AF-S VR ED (52ø).....	—	—	—
600/4.0 G AF-S VR ED (52ø).....	—	—	—
14-24/2.8 G AF-S ED-IF.....	1,996.95	\$200	1,796.95*
16-35/4.0 G AF-S ED VR (77ø).....	1,256.95	\$260	996.95*
17-35/2.8 D AF-S ED-IF (77ø).....	746.95	\$100	646.95
18-35/3.5-5.6 G AF-S G ED (77ø).....	1,886.95	\$200	1,686.95*
24-70/2.8 G AF-S ED-IF (77ø).....	—	—	—
24-85/2.8-4.0 D IF (72ø).....	—	—	—
24-85/3.5-4.5 G AF-S ED VR.....	596.95	\$100	496.95
24-120/4.0 G AF-S ED VR (77ø).....	1,296.95	—	—
28-300/3.5-5.6 G AF-S ED VR.....	1,046.95	\$250	796.95^
70-200/4.0 G AF-S ED VR (67ø).....	1,396.95	\$200	1,196.95*
70-200/2.8 G AF-S ED-IF VR II (77ø).....	2,396.95	\$300	2,096.95*
70-300/4.0-5.6 G (62ø).....	—	—	—
70-300/4.5-5.6 G-AFS VR.....	586.95	\$200	386.95
80-200/2.8 D with Collar (77ø).....	2696.95	\$400	2,296.95*
80-400/4.5-5.6 G AF-S ED VR (77ø).....	—	—	—
200-400/4 G AF-S ED VR II (52ø).....	—	—	—
TC-14E III (1.4x) Teleconverter.....	499.95	\$20	479.95
TC-17E II (1.7x) Teleconverter.....	549.95	\$50	499.95
TC-20E III (2x) Teleconverter.....	—	—	—

* Stand Alone Rebate, No Purchase of DSLR Necessary

** When Purchased with a D3200, D3300, D5200, D5300, D7100

^ When Purchased with D7100, D610, D750, DF, D810 D4s



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▶ LENSBABY... SELECTIVE FOCUS LENSES

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The metal swivel ball design and ultra-smooth manual focusing ring delivers steady, fluid control over the focus and tilt making this the perfect choice to create ground breaking creative imagery.



for Canon, Micro 4/3, Nikon,
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Ideal for tabletop and macro photography. Compress and bend the lens to find your desired Sweet Spot and lock it in place with the push of a button.



for Canon, Nikon, Olympus,
Pentax, Sony #LELC* **199.95**

▶ ZEISS MANUAL FOCUS LENSES

	Canon ZE		Nikon ZF.2	
15mm f/2.8 Distagon T* (ø)	#ZE1528ZEC	2,950.00	#ZE1528ZF2N	2,950.00
18mm f/3.5 Distagon T* (82ø)	#ZE1835ZEC	1,395.00	#ZE1835ZF2N	1,395.00
21mm f/2.8 Distagon T* (82ø)	#ZE2128ZEC	1,843.00	#ZE2128ZF2N	1,843.00
25mm f/2 Distagon T* (67ø)	#ZE252ZEC	1,699.00	#ZE252ZF2N	1,699.00
28mm f/2 Distagon T* (58ø)	#ZE282ZEC	1,283.00	#ZE282ZF2N	1,283.00
35mm f/1.4 Distagon T* (72ø)	#ZE3514ZEC	1,843.00	#ZE3514ZF2N	1,843.00
35mm f/2 Distagon T* (58ø)	#ZE352ZEC	1,117.00	#ZE352ZF2N	1,117.00
50mm f/1.4 Planar T* (58ø)	#ZE5014ZEC	725.00	#ZE5014ZF2N	725.00
50mm f/2 Makro-Planar T* (67ø)	#ZE502ZEC	1,283.00	#ZE502ZF2N	1,283.00
85mm f/1.4 Planar T* (72ø)	#ZE8514ZEC	1,283.00	#ZE8514ZF2N	1,283.00
100mm f/2 Makro-Planar T* (67ø)	#ZE1002ZEC	1,843.00	#ZE1002ZF2N	1,843.00

▶ MANUAL FOCUS LENSES

NOTE: These lenses are compatible with autofocus cameras, but ONLY in manual-focus mode.

	C = Canon EOS	N = Nikon	O = Olympus OM	P = Pentax K	SM = Sony/Minolta		
	Available for	BOYER	Vivitar	Price	ROKONON	Price	
8mm f/3.5 Fisheye	C, N, P, SM	#B0835S*	—	239.99	#ROFE8M*	269.95	
14mm f/2.8 WA	C, N, P, SM	#B014*	—	349.99	#ROFE14M*	349.00	
24mm f/1.4 WA (77ø)	C, N, P, SM	#B02414*	—	499.95	#RORK24M*	599.00	
35mm f/1.4 (77ø)	C, N, P, SM	#B03514*	—	379.99	#RORK35M	499.00	
85mm f/1.4 (72ø)	C, N, P, SM	#B08514*	#V18514*	269.99	#R085M*	299.00	
500mm f/8 Mirror w/Mount	C, N, P, SM	#B05008K*	#V15008*	118.95	#R05008*	108.50	
500mm f/6.3 Mirror w/Mount	C, N, O, P, SM	#B050063*	#V150063*	152.95	#R050063*	129.95	
800mm f/8 Mirror w/Mount	C, N, O, P, SM	#B08008K*	#V18008*	249.95	#R08008*	188.50	
650-1300mm f/8-16 w/Mount	C, N, O, P, SM	#B06501300*	—	264.95	#R06501300*	247.95	

▶ LENS COVERS

- Available with a custom fit for most popular lenses
- Clear, flexible window over the AF/IS/VR controls and the distance-scale window.
- Custom holes that reveal the red-dot for easy alignment to the camera body without removing the cover.

- Available in Black, Digital Camo, Forest Green Camo, Realtree Max4 HD, Hardwoods Snow or white for Canon lenses



▶ HOODIE LENS CAPS

The neoprene Hoodie features a reinforced removable front element protection disc made from rigid plastic and firm foam to protect your lens from dirt, dust, moisture, and impact.

** Specify type of camouflage: Digital Camo, Forest Green, Realtree Max4 HD, or Hardwoods Snow



Size	SKU #	Black	Camo**
Medium	#LELCHM*	13.99	18.99
Large	#LELCHL*	13.99	18.99
X-Large	#LELCHXL*	14.99	19.99
2XL	#LELCH2XL*	15.99	20.99
3XL	#LELCH3XL*	17.99	22.99
4XL	#LELCH4XL*	24.99	29.99

▶ FLASHES



Shoe-Mount Flashes

24 AF-1 Digital	89.99
28 CS-2 Digital Slave Flash	139.99
36 AF-5 Digital	129.99
44 AF-1 Digital	199.99
52 AF-1 TTL Touchscreen	300.00
58 AF-2 TTL Digital	399.99
64 AF-1 Digital	449.99

Handle-Mount Flash Systems

45 CL-4 TTL Digital	519.99
76 MZ-5 TTL Digital	1,039.99



Q-flash TRIO	875.00
Q-flash T5D-R	706.00
Q-flash T5D-R with Turbo SC Battery & Charger	1,057.00
Q-flash T5D-R with Turbo 3 Battery Kit	1,330.00

Batteries

Battery 1	224.00
Turbo SC - Slim Compact	351.00
Turbo Blade	466.00
Turbo 3	624.00



E-Flash Flat Panel Kit #SUF38	58.95
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Shoe-Mount AF Flashes

PF20XD Digital Slave	44.95
RD-2000	52.19
DF3000 Digital for Canon, Nikon, Sony	69.95
PZ-4000 AF TTL	89.95
PZ-40x II AF TTL for Nikon (Silver)	69.95
PZ-42x AF TTL for Canon or Nikon	139.00

Handle-Mount Flashes

622 Super Pro TTL	179.95
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285HV Professional Auto	84.95
Pearstone SB-4 AC Adapter for 285HV #PESB4	14.95

▶ METERS

GOSSSEN

DigiFlash 2	199.99
Starlite 2	719.99
Digi Pro F2	299.99
DigiSky	469.99



KFM-1100 Auto Meter	349.00
KFM-2200 Cine & Flash Meter	699.90



Polaris Digital Exposure	189.95
Polaris Dual 5	294.99



L208 Twin Mate	126.00
L308DC Digidigimetre	279.00
L308S Flashmate	233.00
L478D Lifemaster Pro	339.00
L758DR Digital Flashmaster	634.00
C500 Prodigy Color	1,216.00
C500 Prodigy with Module	1,338.00

58 AF-2 TTL Shoe-Mount Flash

- Guide No. 58'
- Full TTL Mode
- Zoom Head (24-105)
- Bounce Head
- Swivel Head
- Update via USB Port
- Secondary Reflector with 3 Output Ratios
- Weight: 12.8 oz



PZ-42x AF TTL Shoe-Mount Flash

- Guide No. 138'
- Bounce and Swivel Head
- Automatic Shutdown Mode
- Large Illuminated LCD panel
- AF Assist Light
- Weight: 9.1 oz



285HV Professional Auto Shoe-Mount Flash

- Guide No. 120'
- Automatic exposure range to 70'
- 4 auto f/stop settings
- Bounce Head
- Zoom Head (28-105)



Qflash TRIO Parabolic Reflector Flash

- Radio Wireless TTL
- Bounce & Swivel Head
- Guide No. 110'
- Built-In FreeWire
- High-Speed Sync
- TTL compatible



Turbo Blade Battery Pack with Charger

- Shoe Mount Recycling: 1/10-1.5 sec
- Less Than 15 Ounces
- 1/4"-20 Top/Bottom Mounts
- 1.5 Hour Recharging
- Blade-thin: Only 1.44" Height



LEKONIC L-358 Flash Master Digital Incident, Reflected & Flash Lightmeter

- Weatherproof
- Built-in adjustable incident dome
- Rotating 270° Receptor Head
- Weight: 5.4 oz



PORTABLE FLASH ACCESSORIES

Universal Softbox

- Softens and Diffuses Light



Small #VEFD300
Medium #VEFD310
Large #VEFD320

Light Bouncers

- Fits Nearly Any Portable Flash



Basic #VEFD200
Plus #VEFD210

Snoot/Reflectors

- Use As a Snoot or Reflector

5" #VEFD400
8" #VEFD410



Honeycomb Grids

- Tightens Light Beam

1/8" #VEFD600
1/4" #VEFD610

Canon Powershot S120

- 5x Optical Zoom • 4x Digital Zoom
- 5.2-26mm f/1.8-5.7 (35mm equiv: 24-120mm) • 3.0" Touchscreen LCD
- SD/SDHC/SDXC Card Slot
- Full HD 1080/60p Video • ISO 12800
- Enhanced Wi-Fi Capabilities

#CAPSS120B* 449.99 **Less \$50 Rebate..... 399.99**



Expires 2-28-15

12 Mega Pixels

Canon Powershot SX50 HS

- 50x Optical Zoom • 4x Digital Zoom
- 4.3-215mm f/3.4-6.5 (35mm equiv: 24-1200mm) • 2.8" Vari-Angle LCD
- SD/SDHC/SDXC Card Slot
- Full HD 1080p Video with Stereo Sound
- High Speed AF Focuses in 0.19 sec

#CAPSSX50 429.99 **Less \$80 Rebate.... 349.99**



Expires 2-28-15

12 Mega Pixels

Canon Powershot G16

- 3.0" LCD • Full HD 1080/60p Video
- 5x Optical Zoom • 4x Digital Zoom
- 6.1-30.5mm f/1.8-2.8 (35mm equiv: 28-140mm) • SD/SDHC/SDXC Card Slot
- Enhanced Wi-Fi Capabilities
- Continuous Shooting at 9.3 fps

#CAPSG16 499.99 **Less \$50 Rebate..... 449.99**



Expires 2-28-15

12 Mega Pixels

Nikon Coolpix L830

- 3.0" Tilttable LCD • 19 Scene Modes
- 34x Optical Zoom • 68x Digital Zoom
- 4-136mm f/3.0-5.9 (35mm equiv: 22.5-765mm) • SD/SDHC/SDXC Card Slot
- Full HD 1080/60i Video & Stereo Sound
- Hybrid Vibration Reduction

Black or Red #NICPL830*



18 Mega Pixels

Nikon Coolpix P530

- 3.0" Tilttable LCD • 19 Scene Modes
- 34x Optical Zoom • 68x Digital Zoom
- 4-136mm f/3.0-5.9 (35mm equiv: 22.5-765mm) • SD/SDHC/SDXC Card Slot
- Full HD 1080/60i Video & Stereo Sound
- Hybrid Vibration Reduction

#NICPP530* 449.95 **Less \$120 Rebate .. 329.95**

Expires 2-28-15



16 Mega Pixels

FUJIFILM X30

- 2.8" LCD • Die-Cast Magnesium Alloy
- Full HD 1080 Video at 60fps
- 4x Optical Zoom • ISO 100-12800
- 7.1-28.4mm f/2-2.8 (35mm equiv: 28-112mm) • SD/SDHC/SDXC Card Slot
- Film Simulation and Advanced Filters

Black or Silver #FUJX30*



12 Mega Pixels

OLYMPUS Stylus XZ-2 iHS

- 3.0" Swiveling Touchscreen LCD
- 4x Optical Zoom • 2x Digital Zoom
- 6-24mm f/1.8-2.5 (35mm equiv: 27-108mm) Lens • 11 Art Filters
- SD/SDHC/SDXC Card Slot
- Full HD 1080p Video Recording

#OLXZ2B



12 Mega Pixels

Panasonic Lumix DMC-FZ70

- 3.0" LCD • SD/SDHC/SDXC Card Slot
- Full HD 1080i AVCHD Video at 60 fps
- 60x Optical Zoom • 5x Digital Zoom
- 3.58-215mm f/2.8-5.9 (35mm equiv: 20-1200mm) DC Vario Lens
- Creative Controls, Panorama, and Retouch

#PADMCFZ70B*



16 Mega Pixels

Panasonic Lumix DMC-LX7

- 3.0" LCD • SDHC/SDXC Card Slot
- Full HD 1080 Video Recording
- 3.8x Optical Zoom • 7.5x Digital Zoom
- 4.7-17.7mm f/1.4-2.3 (35mm equiv: 24-90mm) Leica Vario-Summilux Lens
- RAW and RAW+JPEG Recording Options

Black or White #PADMCLX7*



10 Mega Pixels

SONY CyberShot DSC-HX50V

- 3.0" Xtra Fine LCD
- Full HD 1080/60p AVCHD Video Capture
- 30x Optical Zoom • 60x Digital Zoom
- 4.3-129mm f/3.5-6.3 (35mm equiv: 24-720mm) Lens • SD/SDHC Card Slot
- Built-in Wi-Fi and GPS

#SODSCHX50VB



20 Mega Pixels

SONY CyberShot DSC-RX100 III

- 3.0" Multi-Angle Xtra Fine LCD
- 2.9x Optical Zoom • 11x Digital Zoom
- 8.8-25.7mm f/1.8-2.8 (35mm equiv: 24-70mm) Carl Zeiss Vario-Sonnar T* Lens
- MS Pro Duo/Pro HG-Duo, SDHC/SDXC Card Slot • Full HD Video • Built-in Wi-Fi with NFC

#SODSCRX100M3



20 Mega Pixels

SONY Cyber-shot DSC-RX10

- Built-In Wireless and NFC Connectivity
- 8.8-73.3mm f/2.8 (35mm equiv: 24-200mm) Carl Zeiss • 3.0" Tilting LCD
- Full HD 1080/p Video at 60 and 24 fps
- MS Duo/Micro, microSDHC Card Slots
- Super Sonicwave Motor for Fast Autofocus

#SODSCRX10B



20 Mega Pixels

MEMORY CARDS

CF Compact Flash

	Delkin				Kingston		Lexar		Sandisk		
	500x	700x	1000x	1050x	Ultimate 266x	Ultimate 600x	800x	1066x	Ultra 50MBs	Extreme 120MBs	Extreme Pro 160MBs
16GB	29.95	37.95	49.95	—	21.95	33.95	40.95	48.95	29.95	39.95	53.95
32GB	44.50	54.99	74.95	89.95	30.95	49.95	46.99	79.99	49.99	58.95	83.39
64GB	84.50	72.50	99.95	159.95	49.95	—	72.95	124.00	—	89.00	149.00
128GB	—	194.95	214.00	254.95	—	—	194.95	249.98	—	199.95	279.95
256GB	—	—	—	—	—	—	399.95	543.91	—	—	569.95
512GB	—	—	—	—	—	—	899.00	—	—	—	—

XQD High-Speed for Nikon D4

	Lexar	Sony
	Professional 1333x	N Series 125MBs
32GB	99.95	99.95
64GB	148.95	189.95

SDHC Secure Digital High Capacity

	Delkin	Kingston	Sandisk
	Pro Class10	Micro Class 4 Mobility	Standard Class 4
4GB	7.95	—	4.95
8GB	9.95	9.41	5.95
16GB	10.95	9.95	14.95
32GB	17.95	19.80	15.95

CFast 2.0 High Speed

High-speed file transfer to meet the demands of broadcast, cinema, and photography.

	SANDISK	LEXAR
60GB (450mts).....	399.95	32GB.....179.99
128GB (515mts).....	799.95	128GB.....640.79
		64GB.....352.43
		256GB.....1,067.99

UHS1 Ultra High Speed

		Lexar			Sandisk			Sony		Delkin	Kingston	Sandisk		Sony	Delkin	Lexar		Sandisk
		Class 10 400x	600x	Micro 633x	Extreme 80MBs	Extreme Pro 95MBs	Micro 80MBs	Class 10 94MBs	Micro 7.75	633x	90MBs	Extreme 60MBs	Extreme Pro 90MBs	95MBs	U3 280MBs	1000x 150MBs	2000x 300MBs	Extreme Pro 280MBs
SDXC	8GB	—	—	—	19.15	—	—	12.49	7.75	17.95	—	—	—	—	—	—	—	—
	16GB	14.95	14.97	23.95	24.95	29.95	24.95	19.95	9.95	31.95	22.95	14.99	—	—	64.95	21.24	—	64.99
	32GB	23.95	23.95	34.95	37.95	39.95	34.95	26.95	16.95	38.95	39.95	24.99	—	39.95	114.95	32.75	74.95*	114.95
	64GB	36.95	42.09	66.95	64.95	78.99	62.95	39.95	32.95	84.95	79.95	49.95	—	75.95	—	56.93	127.83*	224.99
	128GB	—	81.95	—	137.95	—	—	79.95	—	149.95	—	—	147.95	—	—	99.95	—	—
	256GB	—	171.89	—	—	—	—	—	—	359.95	—	—	—	299.95	—	320.58	—	—
512GB	Note: Not all devices support SDXC cards																	
* with USH-II Reader																		

Note: Not all devices support SDXC cards

* with UHS-II Reader



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lighting equipment and accessories

Parabox Speedlight Kit

Kit Includes:

- 24x36" Parabox Softbox
- Umbrella Bracket with Adjustable Shoe
- Adjustable Locking Triple Flash Adapter
- 10' Air-Cushioned Light Stand

#IMPBSB2436K \$218.84

Astral Extreme 2 Monolight Portrait Kit

Kit Includes:

- 2 x Astral Extreme AS-X-400 Monolight
- 10' Air-Cushioned Light Stand
- Luxbanx Small 36" Octagonal Softbox
- Fabric Grid 36" for Luxbanx
- Speed Ring
- Convertible 45" Umbrella - White Satin with Removable Black Backing

#IMASX4002LK \$1,124.50

Oben™

You're On Steady Ground

Tripods with Ball Head

- Detachable Leg and Column Form Monopod
- Non-Rotating Twist-Lock Legs
- Grooved center column • Bubble Level/s
- Rubber Feet & Retractable Metal Spikes
- Included padded carry bag

AT-3421

CT-3481

CT-3561

Model	Ball Head	Load Capacity	Max. Height	Folded	Weight	SKU #	Price
Anodized Aluminum Tripods							
AT-3421	BA-106T	6.6 lb	59"	16.8"	2.7 lb	#OBAT3421106T	\$159.95
AT-3431	BA-108T	8.8 lb	61.3"	17.3"	2.8 lb	#OBAT3431108T	\$199.95
AT-3441	BA-111T	11 lb	63.4"	17.5"	3.5 lb	#OBAT3441111T	\$249.95
AT-3451	BA-113T	13.2 lb	65.5"	18.1"	3.6 lb	#OBAT3451113T	\$289.95
AT-3461	BA-117T	17.6 lb	67.1"	18.9"	4.5 lb	#OBAT3461117T	\$299.95
6x Carbon Fiber Tripods							
CT-3431	BE-108T	8.8 lb	59.5"	17"	2.5 lb	#OBCT3431108T	\$399.95
CT-3451	BE-113T	13.2 lb	61.3"	17.1"	2.5 lb	#OBCT3451113T	\$479.95
CT-3461	BE-117T	17.6 lb	64.5"	17.4"	3.1 lb	#OBCT3461117T	\$479.95
CT-3481	BE-126T	26.4 lb	68"	18.9"	3.8 lb	#OBCT3481126T	\$499.95
CT-3521	BE-106T	6.6 lb	56.4"	14.8"	2.4 lb	#OBCT3521106T	\$379.95
CT-3531	BE-108T	8.8 lb	60.8"	15.5"	2.5 lb	#OBCT3531108T	\$399.95
CT-3551	BE-113T	13.2 lb	62.4"	16"	2.6 lb	#OBCT3551113T	\$469.95
CT-3561	BE-117T	17.6 lb	64.3"	16.8"	3.1 lb	#OBCT3561117T	\$349.95
CT-3581	BE-126T	26.4 lb	67.9"	16.9"	3.9 lb	#OBCT3581126T	\$369.95

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BATTERY GRIPS

PHOTOGRAPHY ACCESSORIES

- Accepts 2 lithium-ion batteries to effectively double the camera's battery life (Batteries not included)
- The included AA battery holder allows you to use 6 AA batteries for added convenience (except BG-N3)
- Alternate shutter release button, main and sub command dials, and an AE-L/AF-L button are provided to facilitate shooting in a vertical orientation

for Canon 5D Mark III	BG-C9	#VEBGC9.....	\$99.95
for Canon 5D Mark II	BG-C2	#VEBGC2.....	\$69.95
for Canon 7D	BG-C4	#VEBGC4.....	\$64.95
for Canon 70D	BG-C10	#VEBGC10.....	\$84.95
for Canon 60D	BG-C6	#VEBGC6.....	\$69.95
for Canon T5i, T4i, T3i, T2i	BG-C5.2	#VEBGC52.....	\$67.95
for Nikon D7100.....	BG-N11	#VEBGN11.....	\$89.95
for Nikon D5300.....	BG-N13	#VEBGN13.....	\$59.95
for Nikon D3300, D3200.....	BG-N12	#VEBGN12.....	\$59.95
for Nikon D600, D610.....	BG-N10	#VEBGN10.....	\$79.95
for Nikon D800, D800E.....	BG-N7	#VEBGN7.....	\$89.95

► FILTERS

3MCC-BAY Filters in stock

► HOYA

B&H SPECIAL! Buy 3 or more Hoya Filters & Get 10% Off

	52mm	58mm	67mm	72mm	77mm
UV, Skylight (1B) HMC	16.50	21.50	27.50	29.95	36.20
UV, Skylight (1B) Super HMC	27.89	26.49	33.00	52.95	44.99
Linear Polarizer	16.99	25.00	38.85	36.85	44.90
Circular Polarizer	23.95	29.95	34.95	42.95	38.90
Circular Polarizer HMC	39.95	49.00	55.90	69.00	104.90
"Moose" Warm Circular Polarizer	35.75	39.55	53.90	55.65	91.50
K2 Yel, XO Yel/Gm, Grn X1, Or G, Red 25A HMC	23.95	28.35	41.95	46.35	60.90
Close-Up Set (+1, +2, +4)	39.99	47.35	53.00	63.00	68.00
Close-Up Set HMC (+1, +2, +4)	52.68	64.88	73.00	100.68	145.35
Intensifier - Blue, Green Field, Enhancement (Red)	34.68	39.95	55.08	60.00	71.50
Neutral Density 2x, 4x, 8x HMC	23.88	19.95	36.95	30.99	34.80
Star 8, Star 8	16.89	22.50	43.35	49.90	46.68

Filter Stack Caps 49mm.....	10.95	52mm.....	10.95	55mm.....	10.95	58mm.....	14.95
Filter Stack Caps 62mm.....	12.95	67mm.....	12.95	72mm.....	13.95	77mm.....	16.95
Filter Wrenches Set of 2 for 48-58mm Filters #GBFW4858	4.95						
Filter Wrenches Set of 2 for 62-82mm Filters #GBFW6277	4.95						

► cokin

B&H SPECIAL! Buy 3 or more Cokin Filters & Get 10% Off

Cokin universal filter holder system allows you to use 1 of 160 different filters on many different-sized lenses. Works with all lenses of SLR cameras (35mm or Digital) and Video/Broadcast cameras. The filter holder is attached to the lens by the adapter ring and takes specially designed round or square filters.

Adapter Rings

.....ea. 15.92			
"A" 49mm, 52mm, 58mm, 62mm.....			ea. 15.92
"P" 52mm, 55mm, 58mm, 62mm, 67mm, 72mm, 77mm, 82mm.....			ea. 19.32
"P" Universal.....			50.64
Z-Pro 52mm, 55mm, 58mm, 62mm, 72mm, 77mm, 82mm.....			ea. 41.53
Series	"A"	"P"	Z-Pro
027 Warm 81B	16.99	—	44.99
056 Star 8	25.71	32.14	—
083/830 Diffuser 1	30.70	—	—
120 Grad G1 Grey	32.53	37.66	—
121 Grad G2 Grey	32.53	33.44	—
122 Grad B1 Blue	32.53	33.44	72.68
125 T2 Tobacco	32.53	33.44	72.68
153 Grey ND4x	22.07	32.56	53.85
164 Circular Polarizer	48.79	105.00	649.90
173 VC Blue/Yellow	38.15	78.00	—
197 Sunset 1	30.91	38.46	69.05

► TIFFEN

Ten-Year Warranty Made in USA Multicoated Filter Technology

Digital Essentials Kits In Stock	52mm	58mm	62mm	72mm	77mm
812 Warning	48.95	74.95	99.95	109.95	129.95
Grad ND 0.6	74.95	63.95	82.90	119.95	139.95
Circular Polarizer	74.10	89.95	119.90	129.95	199.99
Ultra Clear	34.95	38.95	45.95	54.95	54.95
Haze 86	38.95	47.95	56.90	64.95	99.95
ND 1.2	41.50	56.95	74.90	109.95	129.95
ND 0.6	48.95	50.95	69.95	99.95	119.95
Soft FX3	56.95	63.95	82.90	119.95	139.95
Star 4 pt 2	64.95	56.95	74.90	109.95	129.95

► B+W

B&H SPECIAL! Buy 3 or more B+W Filters & Get 5% Off

	55mm	58mm	62mm	67mm	72mm	77mm
UV Haze SC	18.50	24.95	28.99	31.95	34.00	39.99
UV Haze MRC 010M	35.50	31.50	36.30	42.90	49.89	71.75
Circular Polarizer SC	83.95	85.95	83.50	80.00	73.95	99.00
Circular Polarizer MRC	78.00	87.53	82.50	109.99	89.99	119.99
Circular Polarizer Slim	56.95	49.99	68.00	69.99	59.99	80.00
Skylight KR1.5 (1A)	24.50	25.95	31.95	38.95	42.00	53.95
Digital Pro UV MC	41.95	41.95	44.00	—	—	—
Graduated (N.D. & Colors)	99.95	106.95	99.50	109.50	142.50	152.95
Neutral Density 106	56.00	60.95	97.95	105.95	121.95	137.95
Close-Up Lenses 1, 2, 3, 4, 5	25.95	25.95	31.95	38.95	45.95	53.95

► FILM – B&W AND COLOR

COLOR PRINT

FUJIFILM	Kodak
Superia	Ektar
CA 200 135-24.....	100 135-36.....
CH 400 135-24.....	100 120 Roll.....
CH 400 135-36.....	Portra
CZ 800 135-24.....	160 135-36.....
Pro	160 120 Roll.....
400H 135-36.....	160 220 Roll.....
400H 120 Roll.....	160 220 PP (5).....
Kodak	400 135-36.....
Gold Max	400 120 Roll.....
GC 400 135-24.....	400 220 Roll.....
GC 400 135-36.....	400 220 PP (5).....

COLOR SLIDE

FUJIFILM	Velvia RVP
Provia	Pro 50 135-36.....
RDP 100F 135-36.....	Pro 50 120 Roll.....
135-36PP (5).....	100 135-36.....
RDP 100F 120 Roll.....	100 120 Roll.....
135-36PP (5).....	
PROCESSING MAILERS	
FUJIFILM	
Slide	Print C41 35mm.....
36 Exposures	Print C41 120 Roll.....
(35mm).....	Print C41 220 Roll.....

BLACK & WHITE PRINT

ILFORD	Infrared
Pan F+ 50 135-36.....	SFX 200 135-36.....
Pan F+ 50 120 Roll.....	SFX 200 120 Roll.....
FP4+ 125 135-36.....	FUJIFILM
FP4+ 125 120 Roll.....	Acros 100 135-36.....
HP5+ 400 135-36.....	Acros 100 120 Roll.....
HP5+ 400 120 Roll.....	Delta Pro
100 135-36.....	100 135-36.....
100 120 Roll.....	100 120 Roll.....
400 135-36.....	400 135-36.....
400 120 Roll.....	400 120 Roll.....
3200 135-36.....	3200 135-36.....
3200 120 Roll.....	3200 120 Roll.....
XP-2 Super	XP-2 Super
400 135-36.....	400 135-36.....
400 120 Roll.....	400 120 Roll.....

► LIGHTING

SAVAGE Background System

Stands

Economy.....74.95

Port-A-Stand.....114.95*

Multi 3

Polevault.....217.99

* FREE! Roll of White Paper w/Purchase

Paper

Available in 48 Colors

53" x 12 yds.....24.95

107" x 12 yds with Core.....45.95

impact. Panel Frame Reflector Kits

Zebra Gold / Silver

- Reversible 2-Sided Fabric
- Collapsible Aluminum Alloy Frame
- Padded Shoulder Bag

43 x 67" #IMFPK436ZGS.....299.95

59 x 82" #IMFPK598ZGS.....464.95

impact. Octacool Light Kit

with 29.5" Octobox

- Octacool 6 or 9 Lamp Fixture
- Removable Aluminum Reflector
- 28w Lamps
- Internal Diffusion Baffle

Octacool-6 Front

Octacool-6 #IMOC6SB.....199.95

Octacool-9 #IMOC9SB.....259.00

impact. PowerSync16-80 Transceiver

- 80-Channel Wireless Control
- Range: up to 720'
- 4 Individual Groups
- Sync Up to 1/250s
- Hands-Free Shutter Release Function

#IMPS80.....164.95

impact. Luxbanx Duo

Medium Strip Softbox

- For Strobe, LED, Fluorescent Lights
- Also Compatible with Quartz Lights
- Maximum Quartz Wattage: 1,000W
- Heat-Resistant Textured Silver Interior
- Removable Inner Baffle, Front Diffuser
- Fits Speed Rings for Most Popular Brands
- Optional Fabric Grids

16x55" #IMLBSTDM.....199.95

impact. Luxbanx

Large Octagonal Softbox

- White Interior
- Spare Rod
- Removable, Recessed Front Diffuser
- Removable Inner Baffle
- For Use with Strobe Only
- Fits Speed Rings for Most Popular Brands
- Optional Fabric Grids

84" #IMLBOL.....319.95

impact. QuikBalance

Tri-Fold Panel

- Accurate Color Balance & Exposure
- 18% Gray, Neutral White, Neutral Black
- Focus Targets
- Folds to 1/3 Full Size
- Zippered Storage Sleeve Included

12x36" #IMQBPTF12.....49.75

impact. VS-LCD400

Digital Monolight

- Power is variable over a 4-stop range
- Power is adjustable in 1/10 stop increments, from full to 1/8 power
- Digital readout coupled with the power variator
- Limited Auto Dump feature
- Built-in optical slave

400ws #IMVSLCD400.....327.75



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Economy Background Kits with Wrinkle-Resistant Background



- 5'x9' polyester background
- Wrinkle-resistant material
- Glare-free, matte finish
- Sewn-in rod pocket
- Machine washable
- Background stand



4 Kit Options!



5'x9' Black Background + Stand
59-9920 \$79.95



5'x9' Grey Background + Stand
59-9912 \$79.95

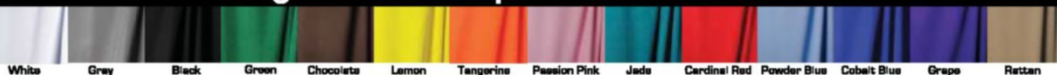


5'x9' White Background + Stand
59-9901 \$79.95



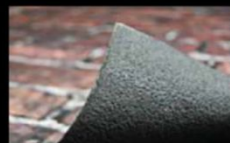
5'x9' Green Background + Stand
59-9946 \$79.95

14 Individual Background Color Options



Floor Drops - Realistic Backgrounds for the Floor or Wall

Floor Drops are amazingly lifelike, detailed, and realistic studio backgrounds for the floor. Easily create the look and feel of location shots in the studio. Floor Drops are printed on quality polyester, with a heavy-duty 1.5mm non-slip rubber back.



1.5mm thick, non-slip rubber backing



Roll up for easy transport & storage



Use as a Floordrop or as a backdrop

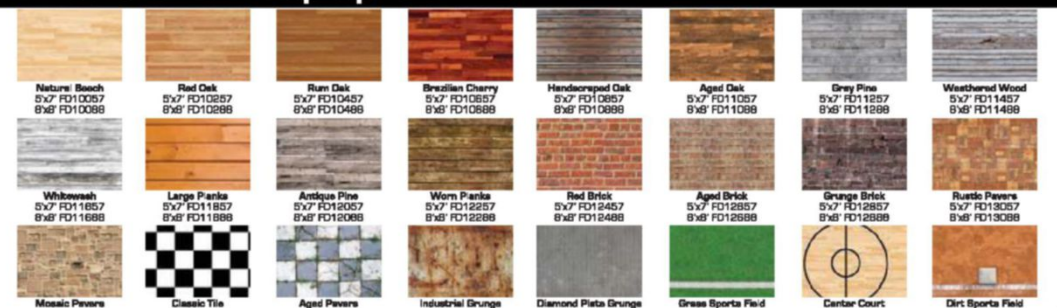


Available in 5'x7' or 8'x8' to fit any studio



Very realistic polyester printed surface

24 Realistic Floor Drop Options



SAVAGE Collapsible Backgrounds starting at \$149 Kits



Reversible

Royal Tone CB100	Lakeside CB102	Moonson CB104
Indigo Nights CB106	Spring Essence CB108	Earth Tone CB110
Black/White CB112	Dark/Light Gray CB114	Green/Blue CB104 Chroma

Retro

Antique Blk RCB200	Red RCB202
Blk/White RCB204	Blue RCB206
Green RCB208	Purple RCB210

Portable, compact, and simple to set up and take down, Savage Collapsible Backgrounds are an ideal choice for photographers looking for a versatile backdrop that easily makes the transition from studio to location.

- Sized to 5'x6' & collapses to just 26"
- Carry bag included for easy transport
- Perfect for on-location photography

All collapsible kits include a 5'x6' background, carry bag and 8' aluminum stand.

SAVAGE Muslin & Fabric Backgrounds starting at \$55 Kits



Crushed Muslin	Washed Muslin	Retro Muslin	Hand-Painted Muslin	Solid Color
Sedona Red 10x12' QM0112 10x24' QM0124	Sky Blue 10x12' WD5012 10x24' WD5024	Red 10x12' RET0112	Venus 10x10' 406004-1010 10x20' 406008-1020	White 10x12' SD0112 10x24' SD0124
Blue Winter 10x12' QM0212 10x24' QM0224	Light Gray 10x12' WD5112 10x24' WD5124	Pink 10x12' RET0113	Verona 10x10' 406018-1010 10x20' 406018-1020	Black 10x12' SD2012 10x24' SD2024
Mocha Biscuit 10x12' QM0312 10x24' QM0324	Forest Green 10x12' WD5212 10x24' WD5224	Baby Blue 10x12' RET0114	Petra 10x10' 406010-1010 10x20' 406010-1020	Gray 10x12' SD1212 10x24' SD1224
Gray Skies 10x12' QM0412 10x24' QM0424	Brown 10x12' WD5312 10x24' WD5324	Antique Brown 10x12' RET0115	Olympia 10x10' 406004-1010 10x20' 406004-1020	Chroma Green 10x12' SD4812 10x24' SD4824
Autumn Brown 10x12' QM0512 10x24' QM0524	Cranberry 10x12' WD5412 10x24' WD5424	Antique Black 10x12' RET0116	Milano 10x10' 406030-1010 10x20' 406030-1020	
Apple Blue 10x12' QM0612 10x24' QM0624	Dark Gray 10x12' WD5512 10x24' WD5524	Black Cream 10x12' RET0117	Bonita 10x10' 406024-1010 10x20' 406024-1020	

10'x20' Muslin Backdrops
Venus 62037-2820
Verona 62037-1860
Petra 62037-1020
Olympia 62037-0420
Milano 62037-3020
Bonita 62037-2420

10'x12' Solid Backdrops
White 01PAS-12
Black 20PAS-12
Green 48PAS-12
Gray 12PAS-12
Blk/White 0120PAS-12
Blk/White/Gray 01120PAS-12
Blk/White/Green 012048PAS-12

All muslin kits include a 10'x10' or 10'x12' background(s), and 10'x8' wide x 8'10" high, portable Port-a-Stand.

SAVAGE Vinyl Backgrounds starting at \$87 Kits



Pure White	Matte Black	Chroma Green	Photo Gray
5x7' V01-0507 8x10' V01-0810 9x10' V01-0910 10x10' V01-1010 10x12' V01-1012	5x7' V20-0507 8x10' V20-0810 9x10' V20-0910 10x10' V20-1010 10x12' V20-1012	5x7' V46-0507 8x10' V46-0810 9x10' V46-0910 10x10' V46-1010 10x12' V46-1012	5x7' V70-0507 8x10' V70-0810 9x10' V70-0910 10x10' V70-1010 10x12' V70-1012

Savage Vinyl Backgrounds provide an ultra-smooth background and have a unique matte finish that eliminates glare. Vinyl stands up extremely well to wear, resists scuffs and is very easy to clean.

- Durable glare-free, matte finish material
- Moisture-resistant, easily cleaned finish
- Sturdy core prevents wrinkles and sagging

All vinyl kits include a 5'x12' vinyl background, and 10'x8' wide x 8'10" high, portable Port-a-Stand.

SAVAGE Green Screen Photo & Video Kits starting at \$65 Software Included!



Photo Creator Kit	Digital Photography Kit	Green Screen Suit with FREE Sony Movie Software	Basic Green Screen Video Kit	Premium Green Screen Video Kit
Includes: • 5x7' Muslin Green Screen • 720 Digital Backgrounds • Green Screen Wizard (PC/Mac) • Removable hanging hooks	Includes: • 5x6' Collapsible Green Screen • 720 Digital Backgrounds • Green Screen Wizard (PC/Mac) • 8' Aluminum stand	Includes: • Full-Body Chrome-key Green Screen Suit • Sony Movie Studio Platinum 12 software (PC)	Includes: • 10'x12' Muslin Green Screen Background • Sony Movie Studio Platinum 12 software (PC)	Includes: • 10'x12' Muslin Green Screen Background • Sony Movie Studio Platinum 12 software (PC) • Portable Background Stand
DBSK100	DPK100	SMALL: VDSMD LARGE: VDSLK	VID1012	VID1024-PAS

SAVAGE Mat, Mount & Presentation Board

TruBlack Presentation Board

A neutral deep board is significantly "black" than standard presentation board. Other presentation board tends to have gray or blue tones. TruBlack is made with a solid black core middle and lined on both sides with deep black 4ply/40pt thickness.

8"x10"	200 QTY	414001
11"x14"	100 QTY	414002
16"x20"	100 QTY	414004

Prestax® Mounting Board

Prestax® is a superior, pH neutral, pressure sensitive mounting board that requires no tissue, no heat and no special equipment, making it simple, fast, and economical to use. Peel back the release sheet, position the artwork or photo, and firmly press down, smoothing over the entire surface. 50pt thickness.

Pressure Sensitive		
8"x10"	200 QTY	30050
11"x14"	100 QTY	30052
16"x20"	100 QTY	30054

Black/White Cut Size Mat Board

Savage Cut Size Mat Board is made from the finest cream core pulp and acid-free papers. 4ply/40pt thickness.

Black/White Smooth		
8"x10"	200 QTY	15401
11"x14"	100 QTY	15402
16"x20"	100 QTY	15404



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CREATIVITY

FINAL SHOT



SANDS OF TIME

Andrei Duman shot this beautiful, ghostly image in Kolmanskop, a German ghost town in the Namib Desert in Southern Namibia, Africa. The town was once the heart of a diamond rush in the 1900s that drew hordes of German miners. But when the diamond fields dried up after World War I, the miners left the town and it was abandoned in 1954. Duman shot the image in May 2014 as personal work. He used a Canon EOS 5D Mark III with a TS-E 17mm f/4L lens. Settings were ISO 200, 1/50 sec at f/7.1. "The sand, through time, has managed to break doors from their hinges, crawl up staircases and meticulously position itself in wonderful patterns amongst the rubble," Duman says. "Finding the right light was the biggest challenge throughout the day because there was a great deal of open space and the sun would create prominent shadows from all directions." You can see more of Duman's work at www.andreiduman.com.

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Editor's Note: Every month we will feature an image in Final Shot from Shutterbug Photo of the Day on Shutterbug.com.

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FIGURE ONE • DIRECT
COVERAGE ANGLE = 30°
F32+ @10', ISO100, 640WS
F5.6 @ 80', ISO200, 640WS



FIGURE TWO • W/DIFFUSER
COVERAGE ANGLE 120°
F11 @10', ISO100, 640WS
F4 @30", ISO100, 5WS



FIGURE THREE • W/20° GRID
COVERAGE ANGLE = 20°
F8+3/10 W/DIFFUSER, 10'
F22+6/10 W/NO DIFFUSER, 10'



FIGURE FOUR • FACE VIEW
VERY EVEN ILLUMINATION
+/- 1/4f ACROSS SURFACE
PERFECTLY ROUND SHAPE

FIGURE ONE . . . DIRECT REFLECTOR PATTERN

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FIGURE TWO . . . WITH INCLUDED 3-LAYER DIFFUSER SOCK

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We suggest using the OMNI™ plus diffuser in place of beauty dishes or softboxes for many shooters. Still more control and 6/10f lower output is obtained by adding the accessory 20° grid spot.

FIGURE THREE . . . PATTERN WITH OPTIONAL 20° GRID (optional 20° honeycomb grid sold separately) \$79.95

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FIGURE FOUR . . . FACE VIEW WITH INCLUDED DIFFUSER

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